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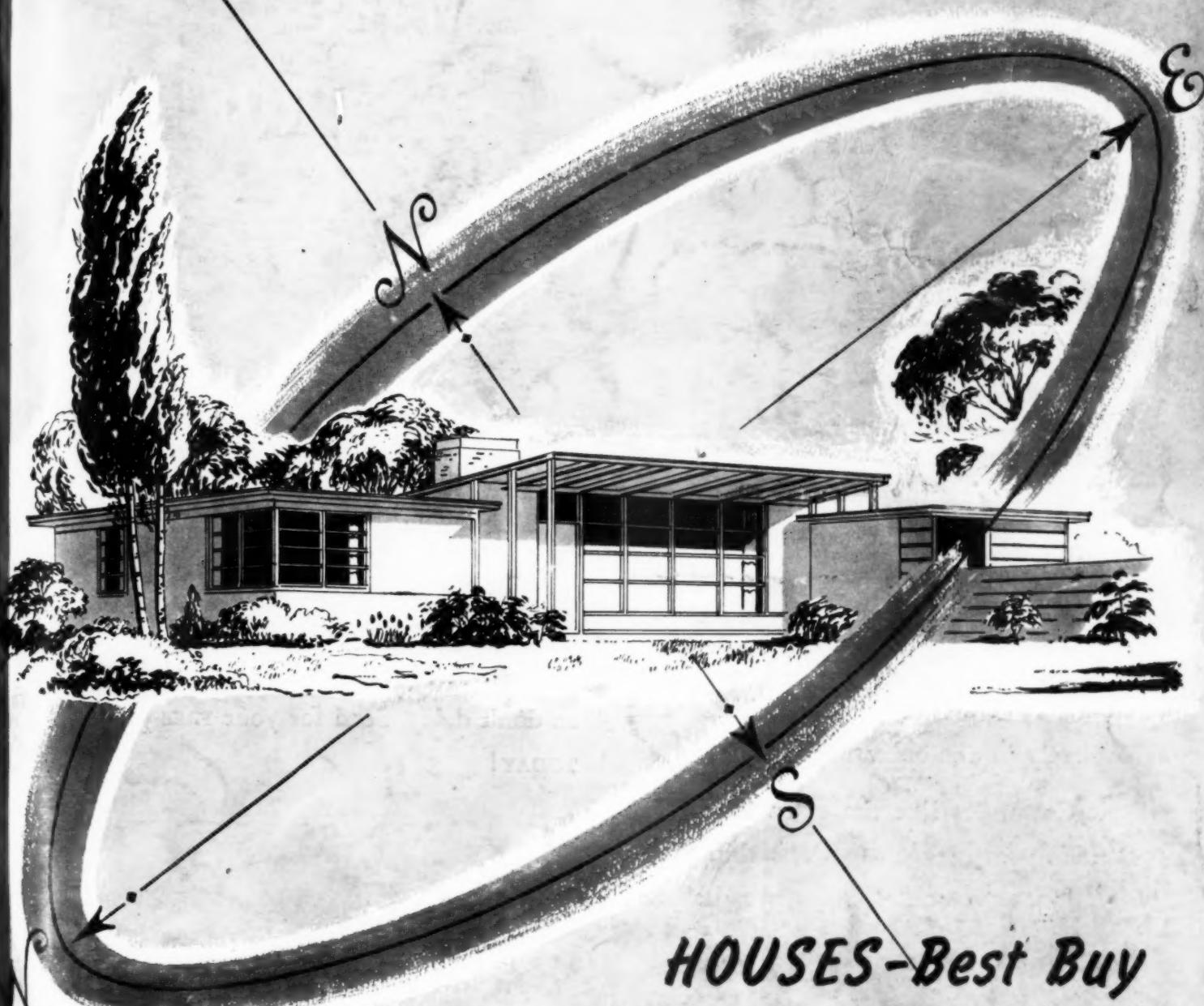
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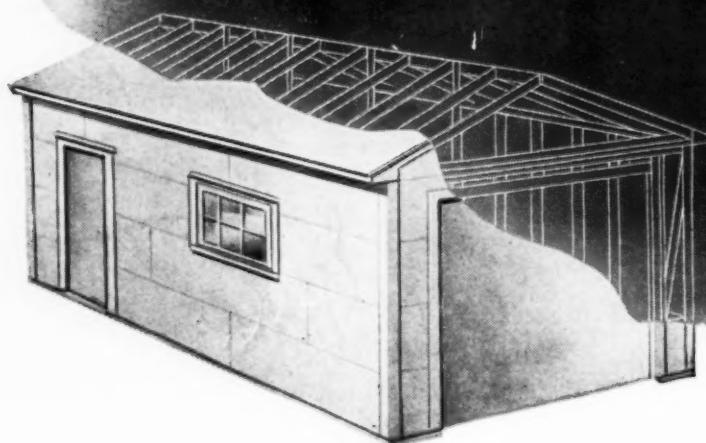


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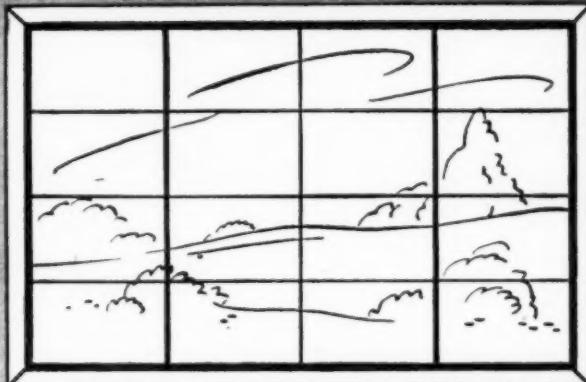
**THE CELOTEX CORPORATION • CHICAGO 3, ILLINOIS**

Published monthly by Simmons-Boardman Publishing Corporation, 105 W. Adams St., Chicago 3, Ill. Subscription price, United States, Possessions and Canada: 1 year, \$3.00; 3 years, \$5.00. Foreign countries: 1 year, \$10.00; 3 years, \$20.00. Single copies, 35 cents. Entered as second-class matter Oct. 11, 1930, at the Post Office at Chicago, Illinois, under the act of March 3, 1879, with additional entry as second-class matter at Mount Morris, Illinois. Address communications to 105 W. Adams St., Chicago 3, Illinois.

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Fourth Northwestern National Bank, Minneapolis, Minnesota, *before* remodeling and modernization work was begun by General Contractor C. O. Field Co.

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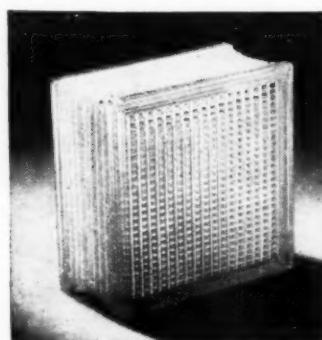
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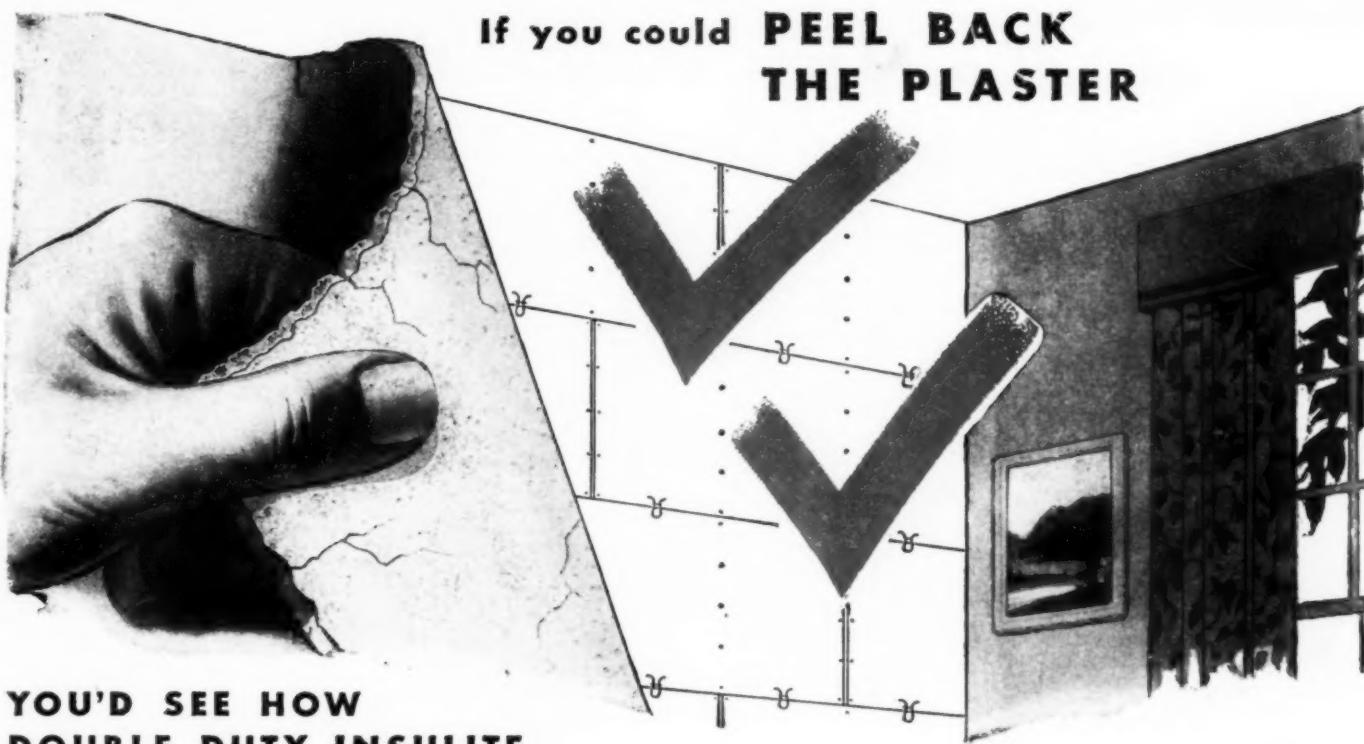
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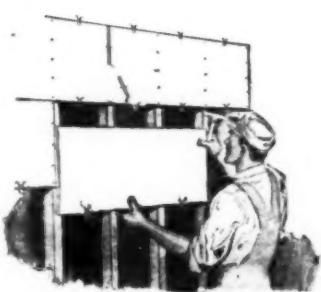


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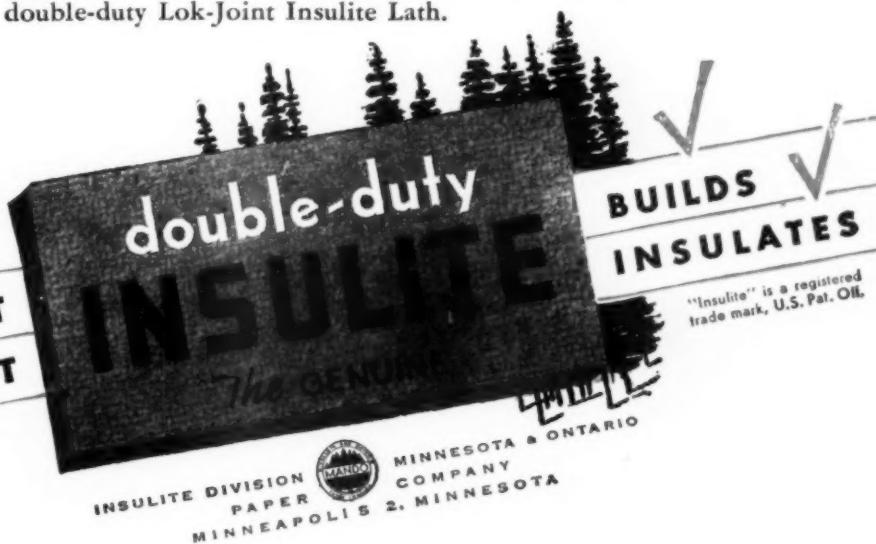
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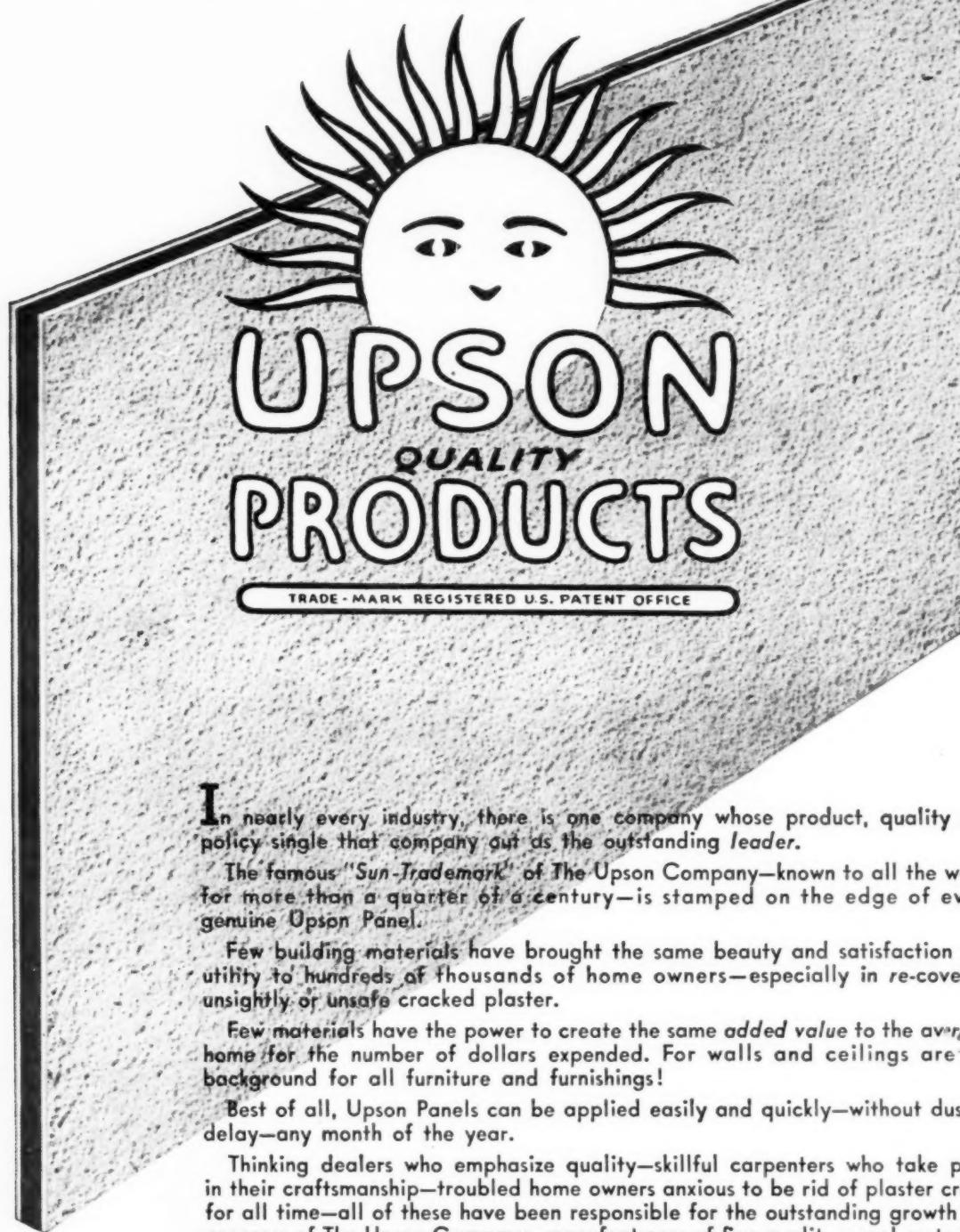
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OCTOBER

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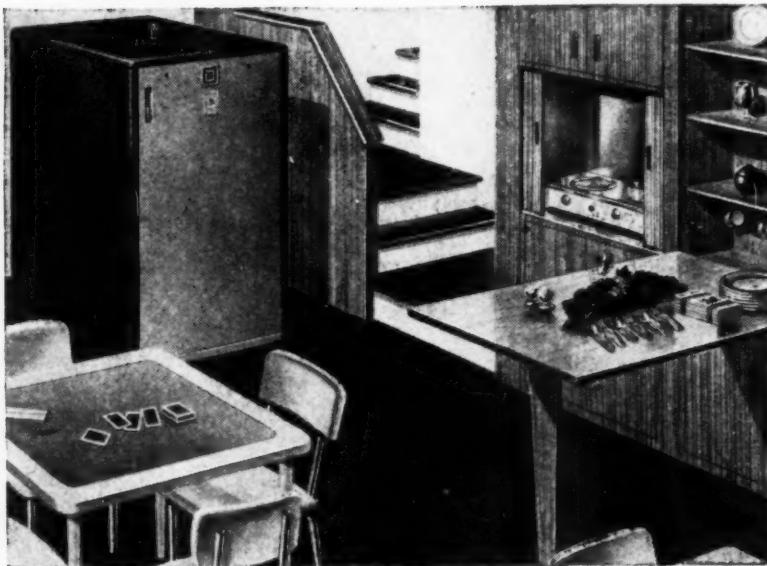
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## PUBLISHER'S PAGE

### **Socialism in Practice—British Example**

IT has taken the Labor government of Great Britain only two years to prove what opponents of socialism always have contended—viz., that freedom and socialism are incompatible because only an autocratic government can manage a socialist economy.

The Labor government has been unable to get production in either the industries it has socialized or in those it threatens with socialization. Hence it has adopted policies under which it will tell everybody what things he can produce, buy or consume, where he shall work and what and how much work he shall do.

The usual excuse, a "national emergency," is given for both the adoption and the failure of socialist policies. It was one "national emergency" after another which caused adoption of one socialistic policy after another in this country under the New Deal. All national emergencies are not caused by socialistic policies; but socialistic policies always protract and create emergencies because they disregard human nature and the laws of economics.

People seldom work because they like work. In a free society, some work efficiently because of hope of success, many more because of fear of losing their jobs. Buying by business and all the people in a free market determines what shall be produced, and where and at what people shall work to produce it. Every socialistic policy tends to destroy the incentives to efficient work by undermining the hope of the ambitious for success and by undermining the fear of the unambitious that they may lose their jobs. Every socialistic policy also tends to unbalance and reduce the total market and total production by artificially increasing demand for some goods and artificially reducing demand for others.

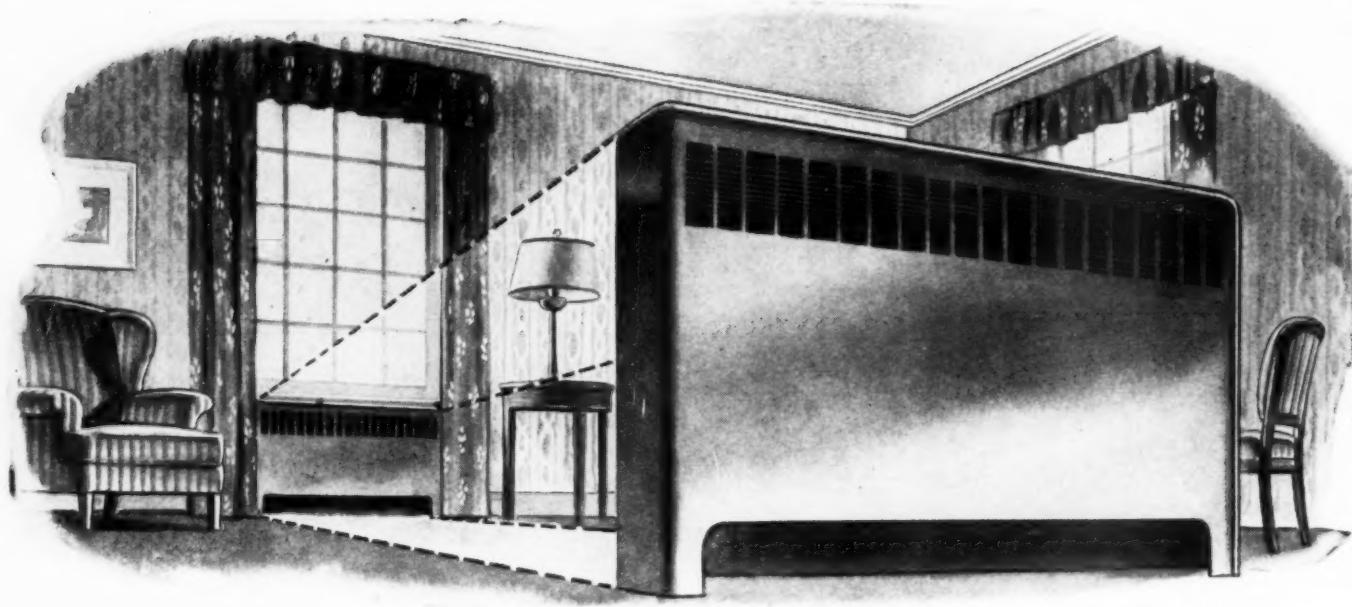
To those who favor socialism there is only one remedy for these developments—increased use of the power of government. Less coal is being produced by the British

mines since the government acquired them. Hence the government orders the miners to work longer hours and produce more coal. The miners begin striking. If this continues, the government will have to resort to *forced labor*. Total production of all goods in Great Britain under the socialist regime is so disappointingly small as to cause an economic crisis. Unable to get *production*, the government resorts to *coercive reduction of consumption* by drastic rationing. This is the road to communism, for *communism is merely socialism established and administered by governmental coercion*.

The people of the United States can learn much from what is occurring in Britain. We have many who contend that any policy adopted by the "democratic process" is right and sound and that we can greatly improve our economy and its results by socialistic policies intended to equalize incomes regardless of inequalities in ambition, ability and work. Well, it was by the "democratic process"—i.e., by voting in a free election, that the British declared for socialism; and they are drifting rapidly toward economic ruin, and, in their efforts to escape ruin, toward substitution of autocracy for democracy.

There is much wrong with our system of private enterprise in this country. It is especially endangered by socialistic policies already in effect and others being advocated. Nevertheless, it is employing so many and producing so much that all the world that has adopted communism, or more socialism than we have, is appealing to us for aid. We should reverse every socialistic policy we have adopted, and, meantime, be chary about burdening ourselves to aid peoples following policies certain to perpetuate and increase their needs.

*Samuel O. Dunn,*



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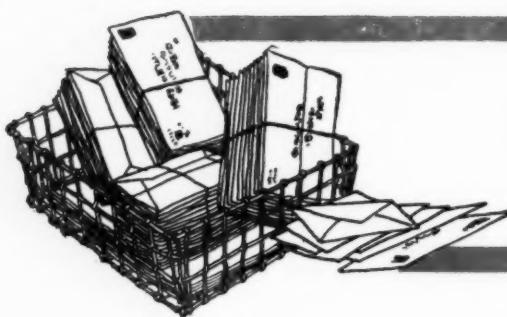
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## Our Readers Say:

### Promising the impossible

*To the Editor:* The writer has been very much disturbed over the housing situation for the young people. In the first place, the politicians were all wrong and went completely haywire when they started the blah long ago that every boy in the army was going to get a nice, new, shining house when he came back from the war. That, of course, was just one of the promises that were made which never could possibly be fulfilled. I believe I know why housing costs so much, and why it is so hard to find, even though I believe with most of the real estate people that there is actually as much or more housing space per person in this country as there ever was.

This company has never failed to answer a letter or an inquiry that we receive from a veteran. We have tried our best to tell him why things are as they are, but it is a very, very touchy job to take on.

We wrote you a year or more ago that we felt it was the duty of every citizen and every company who sincerely believes in the American way of government and of business to do the best he could to keep this country and its business from going socialistic, or worse. That is what we have been trying to do to the best of our ability.

I have written you several times acknowledging the help that you have given me in this fight by your clear news items and analysis of the political and business situations. You folks have done your part but you are helpless unless you get a lot of assistance from the people that read your magazine.—J. H. CHAPMAN, C. W. Chapman Lumber Co., Waterloo, Ia.

### Bureaucracy in action

*To the Editor:* We took an old residence and converted it into a dormitory for boys attending Baylor University. When this property was acquired the writer made a trip to Dallas, Texas, and discussed with the Federal Housing Administration the conversion of this building explaining to them that it would be rented to veterans attending Baylor University, and that the living accommodations were badly overcrowded at Baylor. We were advised that they would approve the project if we would submit our plans and specifications.

In this application for priority we set out a schedule of rents which we had determined to be fair and reasonable based on the amount of money we expected to have invested together with the services to be rendered. This schedule was approved by the FHA office and the priority certificate was stamped "All rental units must be listed with the local O.P.A. rental office within 30 days after they are first rented." We were advised by the FHA Office in Dallas to report to the Area Rent Office in Waco for confirmation of the rent schedule. The reason for this was that we had explained that no job could be undertaken without first having the rents approved by all parties having authority to make changes. Then we were told to check in with the Waco Rent Office before construction was begun. This we did within a few days after the certificate was issued.

Upon going to the local rent office in Waco, we were interviewed by a man with all the appearances of having authority to speak for the Rent Control Office. We explained to him that before we would undertake construction we would have to know if those rents were satisfactory and have the necessary approval. We were advised that "no further approval will be required" and so long as we did not exceed the maximum rentals set forth in the schedule and did not modify the services proposed to be rendered the local office had no further interest in the matter and that no further approval would be required.

In April somebody from the O.P.A. Rent Office came out and advised that we were in violation of rent regulations due to the fact that the building was not registered. They also alleged that we had three rooms being rented which were not on the original schedule. This was true for in the original plan the lower floor was made into a large apartment but due to a change in plans this was not used as a large apartment but a small apartment was set aside at the rear of the lower floor for the manager which left available three additional rooms which took care of ten additional boys.

They asked us to file a schedule of rents being charged, which we did. About two weeks later we received a proposed reduction in rentals which

reduced the rental which we were actually charging in excess of 50 per cent. We were also notified that these rents were to be made effective February 1, 1947, and refunds made accordingly.

After spending five days with the Waco and Dallas offices they arrived at a maximum rental for a single room of \$37.50 for three boys where in our original schedule we were allowed \$60 for three boys and we actually charge \$18.50 per boy or \$55.50 per room. On the face of it our figures may seem a little high but we have a rental period of only eight or nine months out of the twelve. During the summer the building will be no more than one-third occupied.

One other angle to this whole disagreeable mess is just how easy it would be for a sorry, irresponsible government agent to enter into an agreement with someone interested in buying a piece of property, then issue an irresponsible and unjustified report such as was done in this case. If the property was not in strong hands it could easily result in a great financial loss to the owner. This brings up the question as to whether some attempt should be made at this time to make it possible to sue these government bureaus and their representatives without having to go into the Court of Claims or procure an act of Congress; if the government is going to put out irresponsible and incompetent agents in direct competition in lots of cases with legitimate business then let them be responsible the same as other people.—GEO. W. SCRUGGS, Pres., Alamo Construction Co., San Antonio, Texas.

### Usable layouts

*To the Editor:* Thank you for sending me a couple of copies of the August issue. This issue, as usual, is packed full of "down-to-earth" material. You folks have a way of turning up designs the average man is interested in. That compact little layout on page 120 furnishes plenty of food for those who think, and the wealth of data on houses of traditional form is an oasis in a desert of madcap ideas.

We like the treatment you gave our article. The display is excellent.—FRED J. KREUTZER, James Mfg. Co., Ft. Atkinson, Wis.



#### **FIRE-RESISTANT**

Open Truss Steel Joist Construction is built entirely of incombustible materials. The reinforced concrete slab and metal lath ceiling are fire resistant materials and have proved their worth under the most severe conditions.

#### **VERMIN-RESISTANT**

All members of the Truscon "O-T" Open Truss Steel Joist are steel and impregnable to the attacks of insects.

#### **ECONOMICAL**

Light weight effects savings in supporting framework and foundations. Speedily erected. Lowers insurance cost and maintenance expense.

#### **ALL-WEATHER BUILDING**

Construction is carried on as readily in winter as in summer. Not wholly dependent upon the setting of cement, which is seriously retarded by cold weather.

#### **SOUND-RESISTANT**

The greatly increased use of Truscon "O-T" Open Truss Steel Joist Construction in larger and more expensive types of buildings and its acceptance by Architects and Engineers in all parts of the country prove that this construction fully meets the essentials of soundproofness.

#### **PIPES AND CONDUIT**

The open web of the joists permits the passage of pipes and electric conduits, within the depth of the floor, thereby making such installations very economical.

#### **RADIANT HEATING**

The open web of these joists will permit unobstructed flow of air current in any direction and this feature is of important consideration when planning a radiant heating system.

#### **LIGHT WEIGHT**

Scientific design and welded construction permit great strength without excessive weight. Easily handled and rapidly erected.

## **TRUSCON STEEL COMPANY**

YOUNGSTOWN 1, OHIO • Subsidiary of Republic Steel Corporation

# **Now - Prompt delivery on Truscon "O-T" OPEN TRUSS STEEL JOISTS!**

Truscon Open Truss Steel Joists are again available for your use. Their outstanding features of adaptability, economy, fire-resistance, safety and permanence can once more be incorporated into your building plans to provide maximum value in building construction. Contact your nearest Truscon representative for cooperation in completing your building plans now.



Allied Electric Supply Co.,  
Pittsburgh, Pa.  
M. VeShaney, Architect



Youngstown Hospital,  
North Side Unit,  
Youngstown, Ohio  
Kling - Frost, Architects

Manufacturers of a Complete Line of Residential Double Hung Windows . . . Residential Casements . . . Security and Basement Windows . . . Screens and Storm Sash . . . Metal Lath Products . . . Industrial Steel Doors . . . Coal Chute Doors . . . Steel Lintels . . . Concrete Bars . . . Welded Steel Fabric.



**WINDOWS SEMI-SKILLED LABOR CAN  
INSTALL AT LOWEST COST**

Costly, old-fashioned methods of assembling and fitting wood windows on the job are now a thing of the past with builders using new *American Home* prefabricated Packaged Metal Casements. Only five minutes of a semi-skilled workman's time is needed for an installation, from carton to finished job.

Manufacturing, hanging vents, fitting hardware, and fitting wood-surround on the *American Home* Window is done by economical assembly line methods in the modern Mesker plant. No wonder builders' profits are bigger when they use these metal casements.

Stocked and sold by better Building Supply Dealers everywhere. Supply is still short, but improving. Write today for descriptive folder. Mesker Brothers, Sales Div. AB107, 4342 Geraldine, St. Louis 15, Mo.

**SINCE 1879**

**Mesker Windows**  
RESIDENTIAL • COMMERCIAL • INDUSTRIAL

**STEEL OR ALUMINUM  
"American Home"  
CASEMENT WINDOWS  
PREFABRICATED COM-  
PLET WITH WOOD  
SURROUND**

- More exclusive features than any other window on the market.
- Nationally advertised for consumer acceptance.
- Quickly, cheaply, installed in frame, brick-veneer or brick construction.
- Harmonizes with any architectural style.
- The only metal casements designed for outside metal storm sashing.
- Rotary operator opens and closes with a twist of the wrist.
- Safely attached inside screens are interchangeable. No marking for storage—no painting necessary.
- Permanently weather-tight, cannot swell, shrink, warp, rattle or stick. Keeps heat in and weather out.

**THE MODERN WINDOW  
FOR MODERN HOMES**

# 20% PRICE REDUCTION IN BUILDING MATERIALS

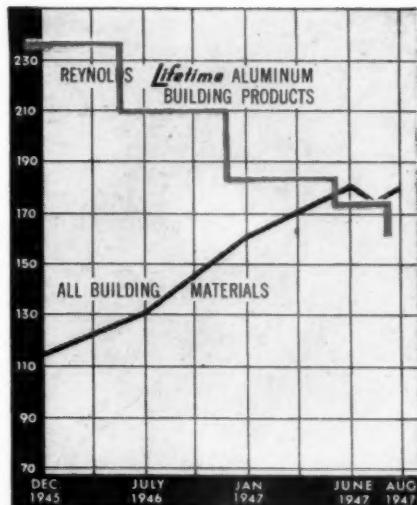
... REYNOLDS *Lifetime* ALUMINUM  
CLAPBOARD SIDING, SHINGLES, "SNAP-SEAL"  
AND CEILING PANELS REDUCED

**Increasing demand supports more efficient Manufacturing Facilities—brings prices below competitive average**

The one obstacle that has kept some builders and architects from turning to long-lasting, low-maintenance, readily available aluminum has been price. *That obstacle is now removed.* Starting with aluminum itself at a base price 30% below pre-war, Reynolds mass fabrication has made possible successive price reductions that bring these aluminum building materials below the Bureau of Labor Statistics overall average!

#### **Important Advantages Available at No More or Even Less Cost**

That means the home-owner or plant operator need pay no premium for building material that is fire-proof, rust-proof, defies rot and termites, lasts indefinitely. In fact, with aluminum's easy application and because it needs no painting the installed cost may come to considerably less than comparable materials. The buyer gets



a free bonus of highly effective insulation, too...because aluminum reflects up to 95% of all radiant heat.

#### **Byrne Organization and N.K.Winston among Big Builders Using Reynolds Lifetime Aluminum**

In Byrne's big Harundale (Md.) development of 1100 site-fabricated homes, Reynolds Lifetime Aluminum Clapboard Siding is now being used consistently. This siding lends itself particularly to shop assembly of entire wall sections. Reynolds Lifetime

Aluminum Shingles have likewise been applied on entire shop-built roofs of Harundale houses.

N. K. Winston, President of Westchester's 2100-acre Continental Village, New York, is also adopting Reynolds Lifetime Aluminum.

#### **Industrial and Farm as well as Home Use Increasing**

The advantages of Reynolds Sheet Roofing and Siding—Corrugated, 5-V Crimp, "Snap-Seal" and Weatherboard—have long been recognized in industrial and farm construction. But the 8" Clapboard Siding has also been increasingly successful in these fields. And now, with this present price reduction, many a plant designer and farmer can afford this finer residential type of siding on his walls.

The sales trend is to aluminum...get in with the trend. See Sweets or write for detailed A.I.A. brochure on Reynolds Lifetime Aluminum Building Products. Reynolds Metals Company, Building Products Division, Louisville 1, Ky.



REYNOLDS  
*Lifetime* ALUMINUM  
BUILDING PRODUCTS

**REYNOLDS *Lifetime* ALUMINUM  
BUILDING PRODUCTS**

SHINGLES • CLAPBOARD SIDING • SHEET ROOFING & SIDING • WINDOWS • CEILING PANEL • GARAGE DOORS • REFLECTIVE INSULATION • UTILITY DECKS • ROOFING ACCESSORIES



*IF THESE WERE YOUR  
CUSTOMERS*

If giraffes were your customers your worries would be over, because they have no vocal cords. But home buyers do have, and they're likely to raise their voices loudly unless the houses you build today are modern and will stay modern for years to come. One way to be sure is to *wire your houses for modern Electric Ranges!*

Survey after survey proves that's what Mr. & Mrs. America want—homes that are up to date—homes with Electric Ranges!

An Electric Range requires only: 3-wire service entrance no smaller than two #6 and one #8 wires from the point of termination of the power supply company's wires to the distribution panel; a 60-amp. switch with overload protection and a three-wire circuit from the distribution panel to a range outlet in the kitchen. Make this your minimum wiring specification.



Electric Range Section  
NATIONAL ELECTRICAL  
MANUFACTURERS ASSOCIATION  
155 E. 44th Street, New York 17, N.Y.

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MONARCH  
NORGE  
QUALITY  
UNIVERSAL  
WESTINGHOUSE



TO KEEP THEM MODERN . . .

*wire your houses*  
FOR ELECTRIC RANGES

# TRENDS

BUILDING MATERIAL—EQUIPMENT—APPLIANCES

## 20-Year Building Record Shattered

THE news that private builders started 80,000 new permanent homes in July, shattering records of 20 years standing and approaching the all-time high of 1925 is very gratifying to the entire building industry. Bureau of Labor Statistics data shows that the smaller towns and villages are responsible for an increasing share of the rising volume of new home construction under way. Seattle, Philadelphia, Detroit and Chicago were the only large centers showing considerable gains. Such important centers as New York, Pittsburgh, Little Rock, Dallas, Long Beach and Baltimore registered a decline in the number of dwelling units for which building permits were issued. Possibly the capacity of the building industry will be the only limiting factor in peak construction activity in the near future.

Two years after V-J Day finds employment at high levels, with shortages in some industries, production of most items at record highs, and with shortages principally in food, housing and automobiles. The war-time and postwar shortages of nylons, white shirts, mens' suits and electrical appliances have been overcome.

Production of hardwood flooring, one of the major housing bottlenecks last year, is now zooming, according to the National Lumber Manufacturer's Association. Preliminary reports to the Association's National Trade Barometer place first-half output of oak flooring at 266,281,000 feet, a jump of 140 per cent over the first half of 1946. Maple flooring output totaled 26,475,000 feet, an increase of 50 per cent. The heavy increases reflect addition of new capacity and record output from existing plants, the NLMA said.

Despite this soaring production and ever-increasing plant capacity, continuing high demand keeps hardwood flooring in the scarce category. With housing starts at a 20-year high it is probable that demand for flooring will exceed supply for the remainder of the year and perhaps longer.

Meanwhile, overall production of lumber is substantially higher than the 1946 figure, and is in plentiful supply in most grades and sizes.

Private investors, particularly individuals and mortgage companies are showing renewed interest in the mortgage market, according to the Mortgage Bankers Association of America. This activity during the past year indicates an acceptance of the present interest rate

level, and a rejection of the idea that real estate values will fall sharply in the near future.

Total mortgage debt of the country increased 13.4 per cent last year and stood at \$34.7 billion in December 31, 1946, as against \$30.4 billion a year earlier.

The compilation shows that the large volume of mortgage financing done by private institutional lenders in 1946 not only made up for the decline in the holdings of federal agencies but caused the mortgage debt to increase substantially.

Federal agencies continued to get out of the mortgage field at a rapid rate, while private interests expanded their holdings. Of total mortgages in the United States; government agencies now hold 6 per cent and private lenders the other 94 per cent.

By class of lenders, banks are supplying most of the mortgage money. Their holdings in December 31, were \$10.3 billion or 30 per cent of the total. Individuals, mortgage companies, and other lenders were second with \$8.0 billion or 23 per cent of the total and savings and loan associations third with \$7.2 billion or 21 per cent. Mortgage portfolios of life insurance companies totaled \$7.1 billion, 20 per cent of the total mortgage debt for 1946. Fraternal societies and associations held less than 1 per cent.

Despite reports of dire economic distress in England, the British Information Services boasts that Britain is making more progress with the building of housing accommodations than any other nation in the world. The 250,000 houses built or under construction in less than two years after the war are said to be a great deal better in quality than the average house built before the war. They are one-quarter to one-third bigger, and much better equipped.

It is difficult to see by what basis Britain measures her accomplishment as the greatest in the world. The 250,000 houses provided by Britain comprise 111,587 permanent homes, 115,329 temporary prefabricated houses and 21,437 made available by conversions.

By contrast, the United States started 1,634,500 homes from September 1945, through July 1947, including 1,283,600 permanent homes and 350,900 temporary units and conversions. United States population is only three times larger than the British Isles and housing production in the United States has been six and one-half times greater than in Great Britain.



WHY  
STICK  
YOUR  
NECK  
OUT?

You can't ignore the  
demand for

## Electric Water Heaters

Surveys\* show that women want Electric Water Heaters because of the following advantages: (1) SAFE (fumeless, flameless); (2) CLEAN (smokeless, sootless); (3) ADAPTABLE (short hot water lines; no flue or vent); (4) TROUBLE-FREE (as electric light); (5) ECONOMICAL (plenty of hot water all the time at low cost).

Be sure the homes you build offer all these advantages—install modern Electric Water Heaters.

\*A NEMA survey revealed that there were three times as many women preferring Electric Water Heaters as owning them.

Electric Water Heater Section  
NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION  
155 E. 44th Street, New York 17, N.Y.  
B & F • CLARK • ELECTROMATIC • FOWLER •  
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THERMO-GRAY • THERMO-WATT • UNIVERSAL •  
WESTINGHOUSE

IN A HOUSE WIRED FOR  
AN ELECTRIC RANGE IT'S

EASY TO INSTALL

AN  
*Electric*  
WATER HEATER!



For every essential Roofing need  
there's a  
**TEXACO**  
Quality  
Roofing Product



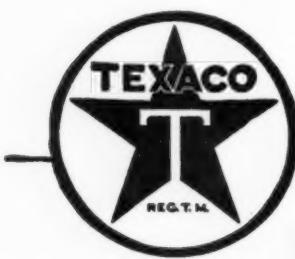
**IT'S A FACT:** Asphalt is America's preferred roofing material. (Actually a 2 to 1 favorite over all other types of roofing combined.)

**IT'S A FACT:** Texaco is one of the world's largest producers of quality asphalt.

**IT'S A FACT:** For every essential roofing need there's a Texaco quality asphalt roofing product . . . Texaco Asphalt Shingles . . . Roll Roofing . . . Coatings . . . Solid Roofing Asphalt.

**IT'S A FACT:** Texaco roofing products are readily saleable for the outstanding service they give . . . for new construction . . . for re-roofing, maintenance and repair . . . for the big farm market . . . for built-up roof construction.

Specify and apply Texaco . . . the name that millions know and trust!



**TEXACO**

**Asphalt**

**SHINGLES and ROOFING**  
**SOLID ROOFING ASPHALT**

**Best**

# for Cast Iron Radiators

... as well as for radiant baseboards,  
convectors and radiant panels

It's hard to beat the cast-iron radiator for the cheery comforts of radiant heat. *Particularly when heat is supplied by a B & G Hydro-Flo System!*

Today's radiators are slim, streamlined beauties, bearing little resemblance to their old fashioned predecessors. Amazingly smaller in size, they give off just as much heat. Modern radiators can be recessed—made so inconspicuous that they blend in smoothly with any decorative plan.

Most important of all, radiators can, and should be, placed under the windows where they meet cold where cold comes in.

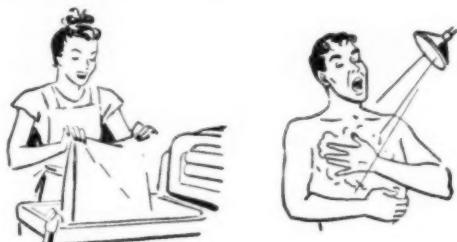
B & G Hydro-Flo Heating equipment enables you to get the utmost benefits from radiator heating. This forced hot water system automatically regulates the average temperature of the water in the radiators so that the heat supply is in accurate balance with the building heat loss. Never overheats—never underheats.

That's why B & G Hydro-Flo Heating Systems are preferred for homes, apartments, commercial and industrial buildings.

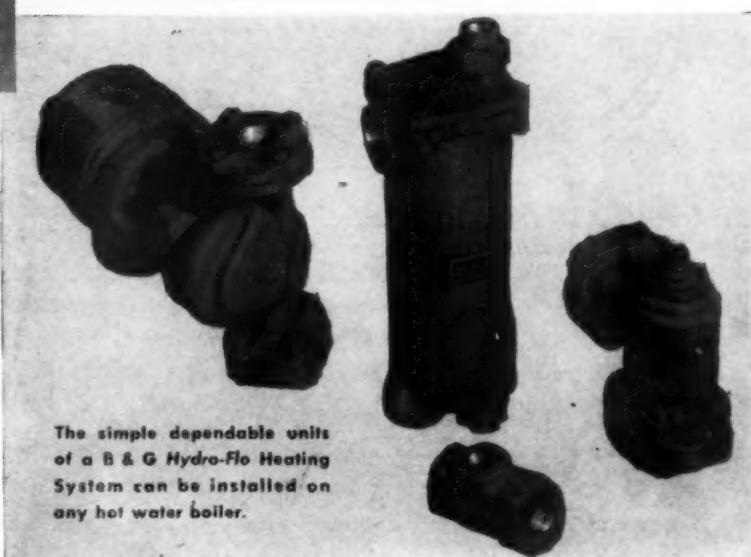
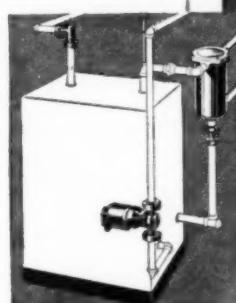
**Year 'round hot water  
from the same boiler that  
heats the house**

With the sharp increase in the use of clothes and dish washers, *low-cost* hot water is more than ever a necessity. Showers, too, requiring large quantities of hot water, are on the rise.

The B & G Water Heater is a component part of the *Hydro-Flo System*. Winter and Summer, with amazing economy, it furnishes a virtually inexhaustible supply of piping hot water.



**Send today for complete file of descriptive literature on B & G Hydro-Flo Heating Products**

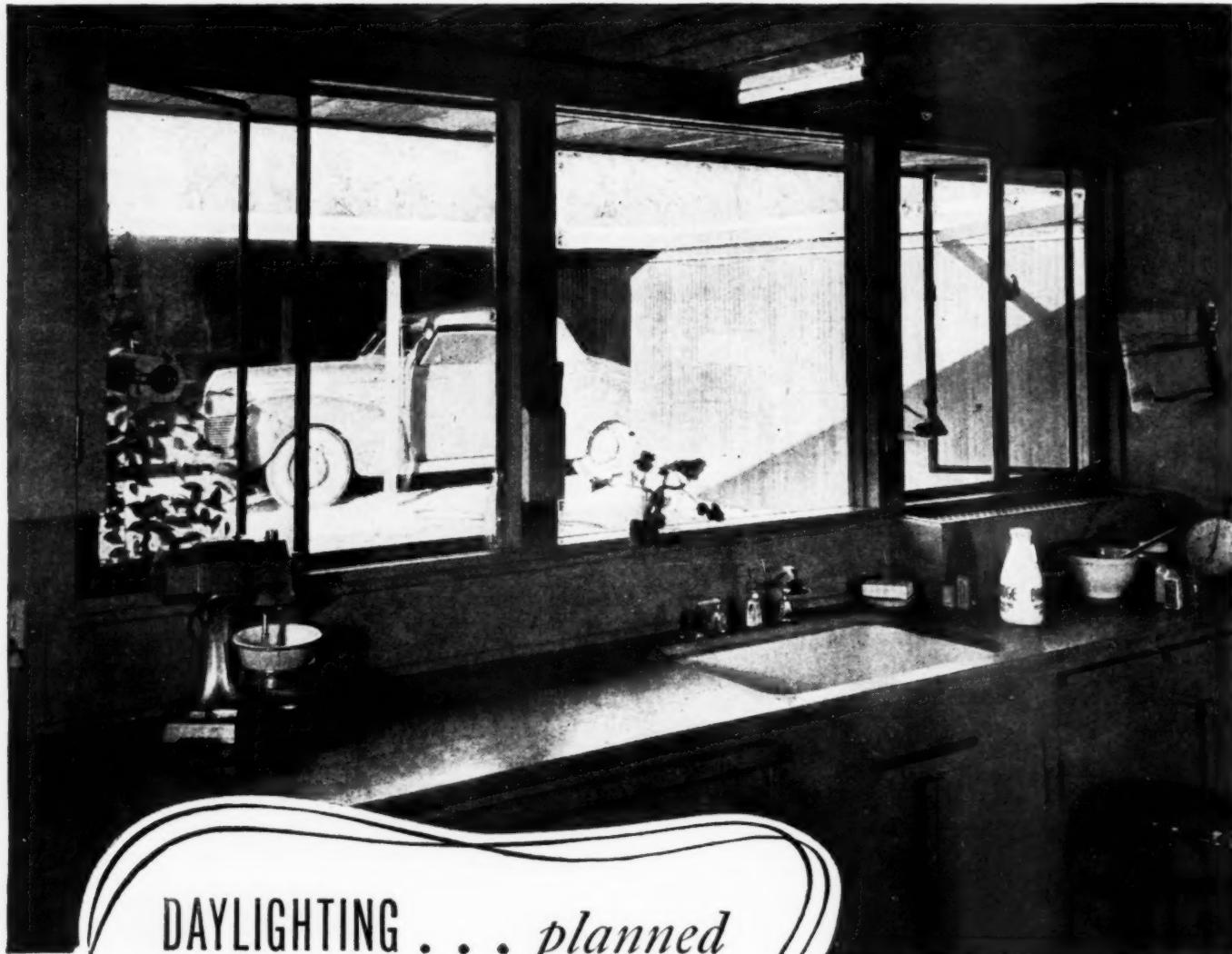


The simple dependable units of a B & G Hydro-Flo Heating System can be installed on any hot water boiler.

## Hydro-Flo<sup>\*</sup> HEAT

BELL & GOSSETT CO.  
DEPT. AF-11, MORTON GROVE, ILL.

\*REG. U. S. PAT. OFF.



**DAYLIGHTING . . . planned  
to catch a prospect's eye**

Architect: Victor Hornbein, Denver.  
Photo: Andreas Feininger, New York.

Women view a kitchen with a critical eye. And well they might . . . considering the hours they spend there.

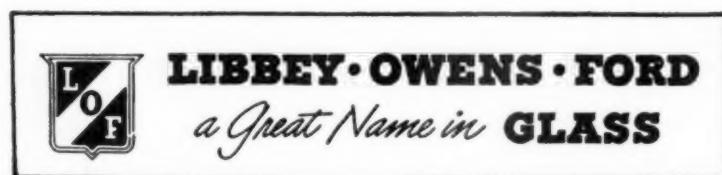
That's why it pays to make the windows a part of kitchen planning. Plan them large enough to provide ample daylight for brighter, more pleasant working hours. To make any room in the house more appealing, open the walls with glass. It's a sure way to mark a house as up to date.

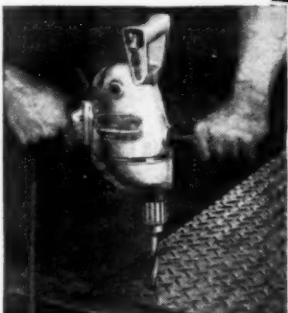
We mentioned a woman's critical eye. This

suggests making sure those bigger windows—all through the house—are glazed with top-quality glass. When prospective home buyers see the L-O-F label on windows of your houses it assures them that better, clearer glass has been used. Libbey-Owens-Ford Glass Company, 43107 Nicholas Building, Toledo 3, Ohio.

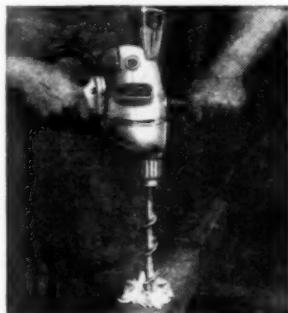
L-O-F also makes plate glass, safety glass, colorful *Vitrolite*\* glass facing, *Tuf-flex*\* tempered plate glass and other flat glasses. Only Libbey-Owens-Ford makes *Thermopane*\*—the first complete glass insulating unit of its kind.

\*®

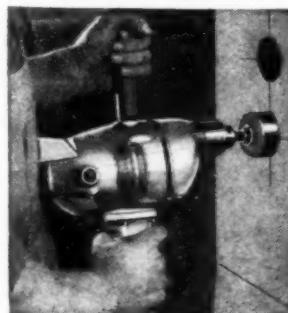




DRIVES TWIST DRILLS up to  
1/2" diam. in steel



DRIVES WOOD AUGERS up to  
1" diam. in hardwood



DRIVES HOLE SAWS up to  
3 1/2" diam. in sheet steel

## Saves You Time . . . Cuts Costs The Right "All-Purpose" Drill

The pictures tell the story of why the Black & Decker 1/2" Standard Drill leads in popularity with electric tool users. The spindle speed is just right for all sorts of general purpose work in metal, hardwood, plastics, etc. . . . on maintenance, repair and construction jobs. Perfect operating balance, weighs only 9 3/4 lbs. Minimum spindle offset and horizontal spade handle designed for work in close quarters. And the tool is expertly built of first-quality materials to give

years of service. Universal (A.C.-D.C.) motor; standard voltage, 110; also available for 32, 220 or 250 volts.

Ask your nearby Black & Decker Distributor to show you this most popular Drill of many uses. And remember, he's ready to give you expert help on any other tooling problem. For your free copy of our catalog, write to: The Black & Decker Mfg. Co., 666 Pennsylvania Avenue, Towson 4, Maryland.

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**Black & Decker**  
PORTABLE ELECTRIC TOOLS

MULTIPLY  
Your Drill's  
USEFULNESS  
with these  
ACCESSORIES

HOLE SAWS: Cut clean, round holes in any material a hack saw will cut;  
5/8" to 4" diameters.

BENCH STANDS: Quickly convert your Portable Drill to drill press use  
for accurate and heavy-duty work.

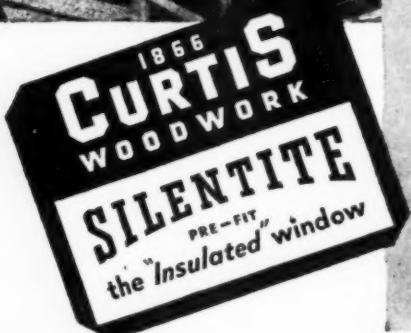
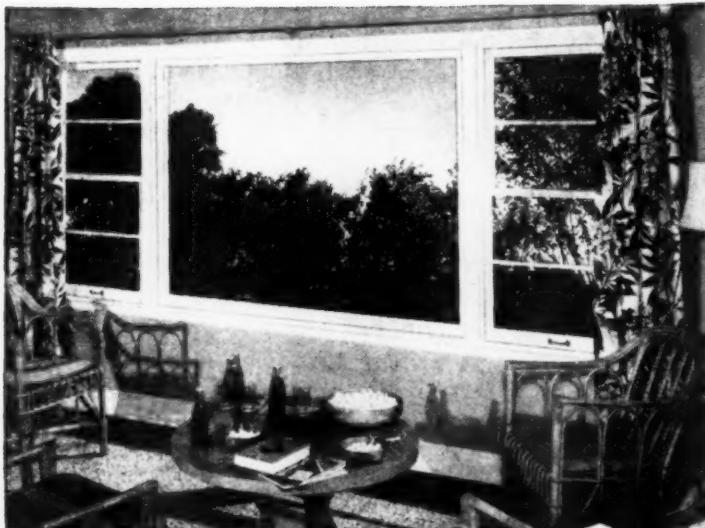
RIGHT ANGLE ATTACHMENT: For drilling and boring around corners, in  
close clearances.

FEED SCREWS: A mechanical "push" for constant, steady feed pressure  
in close quarters.

there are

**no Window Questions**

**when you choose  
SILENTITE**



**NO QUESTION OF WEATHER-TIGHTNESS!** The new self-fitting Silentite is 20% more weather-tight even than the famous original Silentite—America's *first "insulated" window*. In the new Silentite, full-length, double-Z type bronze weatherstrips in the jambs press sliding bars against the edges of the sash, providing a tight fit, yet permitting easy movement. In addition, the new Silentite has improved weatherstripping at head sill and meeting rail. Silentite is made of wood, a natural insulating material—toxic and water repellent treated.

**NO QUESTION OF OPERATING EASE!** The new Silentite operates easily the year around; but won't rattle or "creep"—thanks to the famous Silentite construction features. No weights or pulleys to get out of order, no sticking or binding. Even a small child can operate Silentite!

**NO QUESTION OF SAFETY!** The new Silentite locks in two positions—closed or partly open. Two Silentite locks (furnished with every Silentite window) are placed at the sides—no conspicuous center lock as on ordinary windows.

**NO QUESTION OF BEAUTY!** The new Silentite—available in 12 sash styles—is a *beautiful* window. Mullions are narrow—glass area is greater—narrow trim is used. Proportions are graceful. More than ever, Silentite is the kind of window that enhances the appearance of any home, large or small.

**NO QUESTION OF INSTALLATION!** The new Silentite is amazingly easy to install because it is a prefabricated wood window. All parts are engineered for perfect coordination in the completed job. And—good news!—installation costs are amazingly low.

*Let us give you all the facts about the new self-fitting Silentite window—and why it has been called America's most modern window. Mail the coupon!*

Curtis Companies Service Bureau  
AB-10S Curtis Building  
Clinton, Iowa

Gentlemen: Please send me your booklet on the new Curtis Silentite Window.

Name.....

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City..... State.....

I am  Architect,  Contractor,  Prospective Home Builder,  
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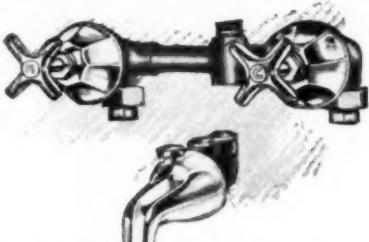
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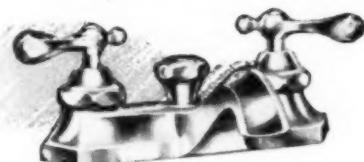
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A FEW OF THE  
MANY FAVORITE  
**Salter Fixtures**  
AVAILABLE FOR  
YOUR PLUMBING  
REQUIREMENTS.



S-436—Automatic 2-Valve Bath and Shower Fixture with convenient lift lock type diverter for full instant pressure in tub or shower. Complete with head, arm and trip lever waste.



370—One-piece Masterpiece Lavatory Fixture with indexed lever handles and long life "EZE" close valve action. For lavatories with 4" center openings. A distinctive, compact chrome lavatory fixture.



803—Seamless 11" P-Trap with forged cleanout plug. Furnished complete with heavy gauge flanges. Heavily chrome plated.



140-D—Single sink faucet with adjustable flange bibb and 4 arm indexed handle. Salter "EZE" close valve construction.



221—Globe Stop and Waste with precision "EZE" close valve construction which provides positive shut off with minimum pressure.

**NEW CATALOG**  
describing in detail most items of the  
Salter-Glauber line will be sent FREE when  
requested on your business stationery.

# Out in Front

## WITH THE MOST COMPLETE LINE OF QUALITY BRASS PLUMBING FIXTURES



Salter Masterpiece Fixtures are fast becoming the "favorite" of plumbers, contractors and home owners. This "out in front" position has been attained not only through their superior "EZE" close construction and sparkling, distinctive appearance, but also from the fact that a most complete line is available to meet all brass plumbing requirements. The Salter-Glauber Line, in addition to built-in and regular trim, includes all types of check, globe, gate and radiator valves, tubular traps and drains, barber shop fixtures, special laboratory fittings, plus a complete line of ground-key water works valves and fittings. If you are not already capitalizing on Salter's "out in front" reputation for quality and delivery, contact your local plumbing jobber or supplier without delay.

602—Masterpiece Sink fixture with one piece concealed body for steel and cast iron sinks with 3 openings on 4" centers. Furnished complete with automatic spray—603 without spray—1602 and 1603 for wood ledge installation.



**H.B. Salter MFG. CO.**  
MASTERPIECES IN BRASS

20 Ninth Street, Marysville, Ohio  
and division THE GLAUBER BRASS MFG. CO., Kinsman, Ohio

**ON THE  
RECORD AT  
SARGENT & COMPANY**

**The BORED-IN LOCK  
With AUTO-RELEASE**

Sargent now offers you a complete line of Bored-In Lock and Latch Sets in a variety of trim that will take care of your full requirements.

*Made From Strongest Materials*—During the war it was necessary to use substitute materials in Sargent Bored-In Locks. Now that is ended. As you will see in the illustration above, all essential parts of the new Sargent Bored-In Locks are made of the finest, strongest materials: extruded brass for latch bolts, forged brass for hubs, wrought steel for retractors.

*Reversible*—Every Sargent Bored-In Lock or Latch Set will fit either right or left hand doors. On locks the latch bolt heads may be revolved for use on reverse bevel doors.

*Auto-Release Feature*—Every Sargent Bored-In Lock provides the convenience of automatic release. This distinctive Sargent feature releases the locking mechanism whenever the latch bolt is retracted either by a turn of the inside knob or as the latch bolt head slides across the strike.

*Quickly Installed*—Installation is quick and economical because both holes are bored with one size bit. Use of Sargent Boring Jig assures perfect alignment.

*Complete Line*—The complete line of Sargent Bored-In Locks and Latches includes sets with Regular Shank Knobs, French Shank Knobs, Glass Knobs and steel trim. Your nearest Sargent Distributor will be glad to give you complete specifications and prices.

Sargent Bored-In Lock and Latch Sets  
Are Available for Prompt Delivery

**SARGENT**  
REG. U.S. PAT. OFF.  
**SARGENT & COMPANY**  
NEW YORK • NEW HAVEN, CONN. • CHICAGO

**News, Views  
and Comments**

## On and Off the Record

**SENATE VOTING**—The 47 to 38 vote by which the Senate rejected House Concurrent Resolution 51, and thereby made Reorganization Plan No. 3 effective, provides an accurate forecast of Senate voting in 1948 on the new public housing bill.

**GUARANTEES**—Builders who gave performance guarantees to buyers before the war had to stop the practice because of the need to use substitutes of known or suspected inferiority during and following the war. Many will resume giving guarantees next year, with standard brand materials back on the market in quantity.

**SURVEYS**—A survey made recently showed that of 201 families who moved into new homes, only one-third left accommodations that might house other families, while less than one-half of the families acquiring the vacated dwellings had in turn moved out of premises that could be taken by still other families. Conclusion reached by the survey was that there would be no appreciable number of vacancies for several years.

**CONCLUSION**—The conclusion is correct, but hardly enlightening. It simply re-states what builders always have known, that when the lowest level is reached, only the uninhabitable or unrentable units are left, and these are demolished. If everyone who moves left a habitable or rentable house no new building would be needed except to take care of the difference between birth and death rates.

**POLITICAL HOUSING**—Report of a sub-committee headed by Congressman Jensen to investigate government operations of the public housing projects revealed that more than 31 per cent of all tenants of public housing were totally ineligible for such public assistance, and that FPHS had taken virtually no action to rectify the situation.

**WAR HOUSING**—The report stated that FPHS had failed to dispose of war time housing and instead has inaugurated a "socialized scheme for the disposition to mutual organizations which completely ignore veterans' preference," unless the veteran was an occupant.

**\$40,000,000**—It was further charged that FPHS has built up unreasonable cash reserves at the expense of federal subsidy for alleged vacancy and collec-

tion losses and other contingencies that may or may not materialize. Cash reserve amounts to \$40,000,000.

**PROPAGANDA**—Store rooms of FPHS were found to be replete with propaganda material to influence passage of public housing legislation. Section 201 of Title 18, U.S. Code, specifically provides criminal penalties for the use of appropriated funds to influence legislation.

**INFLUENCING LEGISLATION**—It would be interesting to learn where the money came from to finance trips that unmistakably were made to influence passage of public housing legislation by Wilson Wyatt. Also where the money came from to buy radio time for numerous government propagandists favoring public housing.

**READ IT**—Referring to the complete report Rep. Charles K. Fletcher said, "This is only a sample of what the report discloses regarding the San Diego area. Get it and read what it says about your Congressional District. You will be much surprised and disgusted with the administration of the FPHS."

**AMERICAN LEGION**—The Legion stands pat on its stand with regard to the Taft-Ellender-Wagner bill. Thumbs down, said the Legion, world's largest organization of veterans, and that after listening to the most persuasive supporters of the bill. The supporters, challenged to show a single statement in the bill that would benefit veterans, had no reply.

**MORGAN L. FITCH**—The NAREB president recently said that good homes under our standards cannot be produced as a public utility. Schemes for putting good homes on the market at prices below cost, he said, will work no better for us than they have for Russia, France, Italy or England.

**PEARSON AGAIN**—Drew Pearson, recently claimed that the housing program was scuttled as a result of the end of OPA, and that bathtub manufacturers had to seek foreign markets for the sale of their products. He was put in his place by the editors of Plumbing and Heating Wholesaler. They pointed out that no Grade A fixtures were exported. Only Grade B fixtures for which there is no market in this country, were shipped out.

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So if you've been waiting to get into the bathroom with a quality line of cabinets that does justice to a really well-designed, well-built home . . . wait no more! Now again Miami-Carey is back with three outstanding lines — The Miami, The Cavalier, The Colonial — to fit family budgets of any size!

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**... As Outlined in New  
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NEW STANDARDS of performance and serviceability are now incorporated in every panel of Interior-type Douglas fir plywood. U.S. Commercial Standard CS 45-47—newly adopted by the Douglas fir plywood industry—sets up a higher quality standard than ever before. Two principal improvements have been made in all Interior-type plywood: (1) Every panel is now manufactured with higher performance adhesive (the premium adhesive long used in Plyform grade); (2) Every panel is manufactured with higher specification inner plys.

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Sound 1 Side

PLYPANEL DFPA - So2S

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**PLYFORM**

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\*An example is Sound 1 Side Exterior—the grade generally used for the exterior siding of homes and commercial buildings.

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Booklets giving complete data on the new U.S. Commercial Standard (CS 45-47) for all types and grades of Douglas fir plywood are available. Single copies will be mailed without charge to any point in the United States. Address your request to: Douglas Fir Plywood Association, Tacoma 2, Wash.

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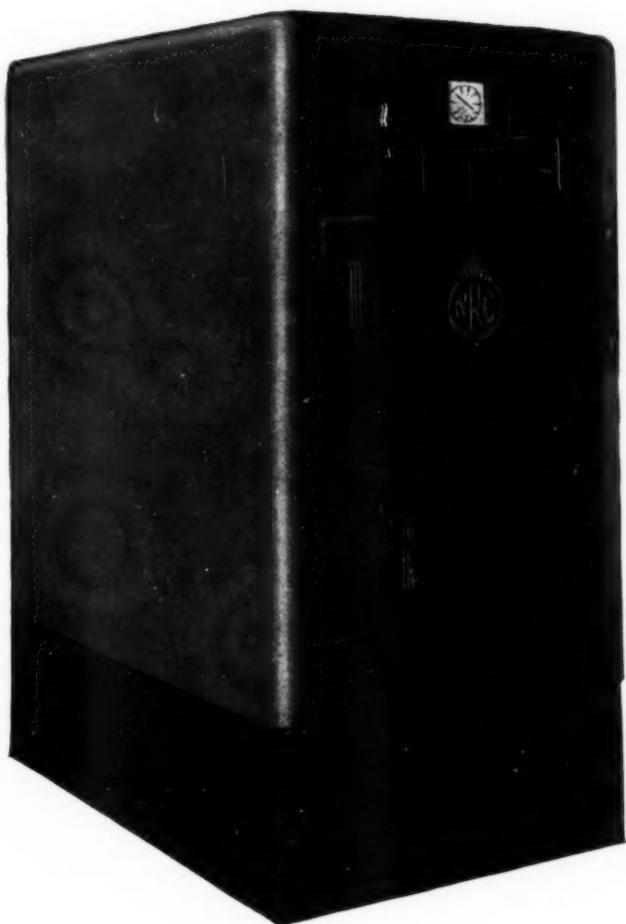


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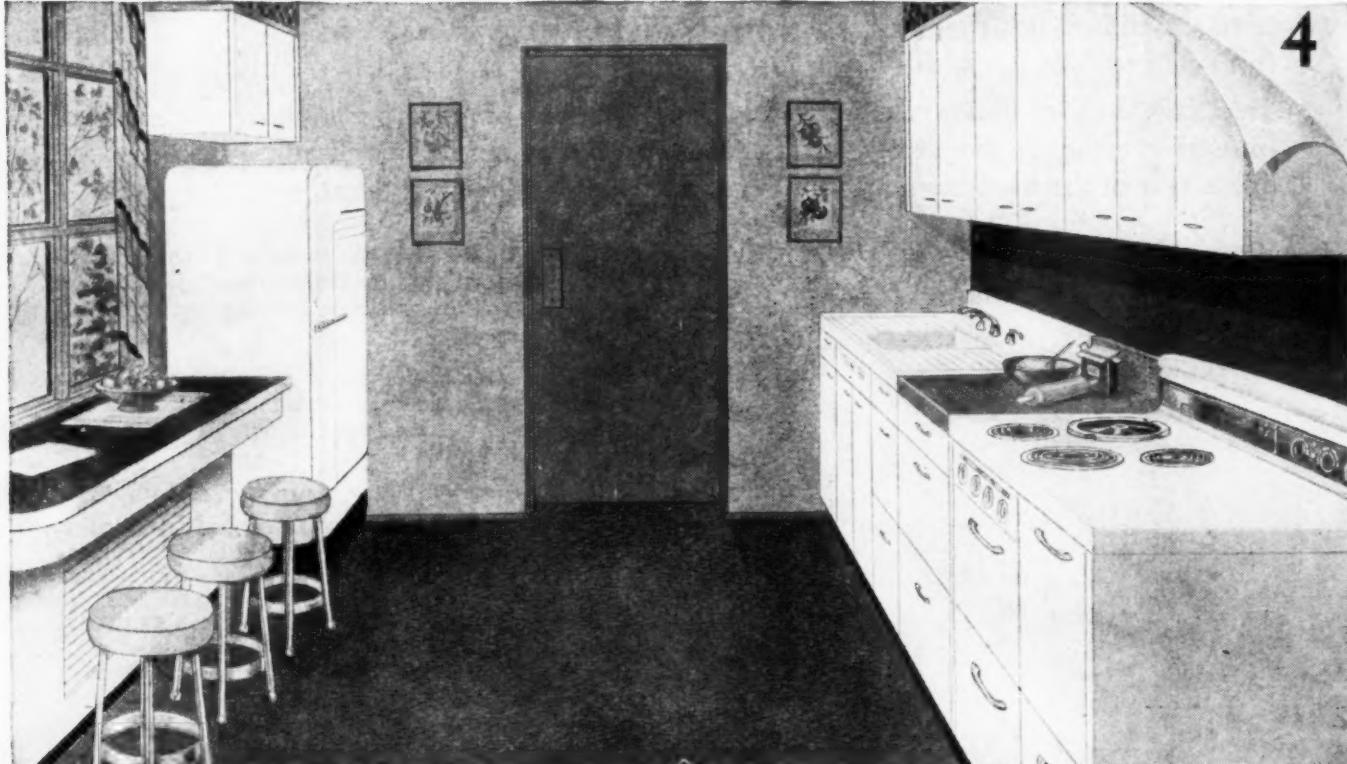


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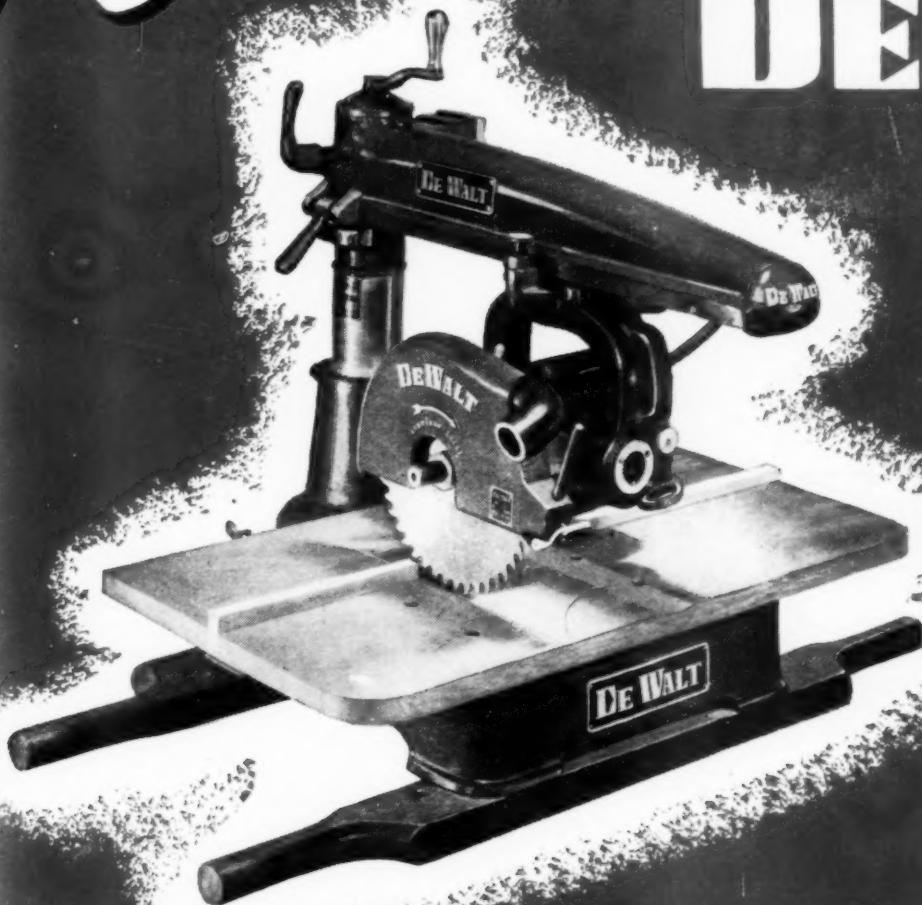
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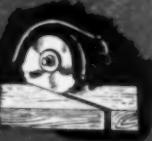
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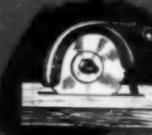
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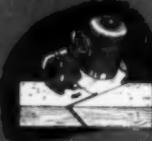
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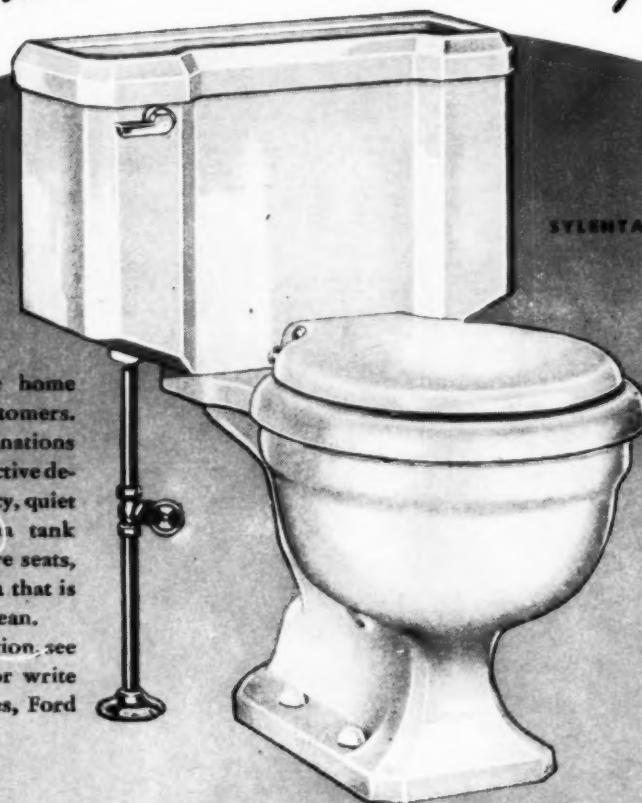
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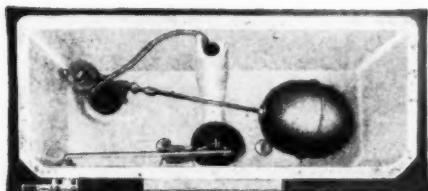


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# MONTHLY REVIEW

NEWS OF THE NATIONAL ASSOCIATION OF HOME BUILDERS AND AFFILIATED ASSOCIATIONS

## Chicago Home Builders to Establish New Headquarters and Exposition Center

Chicago Metropolitan Home Builders Association has leased a three-level building in downtown Chicago, which after some interior remodeling now in process, will become the Chicagoland Home Building Center. It will contain the association offices and meeting rooms, exhibits of building materials and equipment, and facilities to induce members to make the center their

corner. From this level a wide double stairway ascends to the second floor, with an adequate stairway leading to the basement.

The street-level floor will be occupied entirely by permanent exhibits of building materials and equipment, all of which will be clearly visible from the sidewalk and the street through five large show windows. The exhibits will be supplemented with shelves and tables containing plans, plan books, text books, and other useful information for home owners, prospective home owners and home builders. The exhibits and services to be made available are calculated to establish and maintain public acceptance and confidence.

Approximately two-thirds of the basement will be used for storage, with the remainder devoted to exhibits. The exhibits will be open daily, except Sundays from 9 a.m. to 6 p.m., and windows will be lighted throughout the evening hours. Two experienced attendants trained to answer questions about the exhibits will be stationed on the street-level floor at all times. There will be facilities on this floor for consultations with prospects.

Exhibit spaces will be designed to interest builders who construct new homes, and those organizations engaged in alterations and repair work, as well as distributors and the manufacturers of materials, equipment and appliances. Of even more importance, however, is design and layout that will serve as a dramatic presentation of the reasons for building new homes.

The entire second floor will be occupied by the association's general offices. The area is more than three times that of the association's present quarters. The space will be

planned to enable the association to render new and better services to its members. The directors' section of the floor is 20 feet by 60 feet, divisible into three rooms when several separate meetings are desired. Comfortable capacity of the whole space is about 150 persons. Builders, sub contractors and material men will be invited to meet in the new offices. Suitable desk space will be provided for all kinds of transactions. Notary service will be available, and the association insurance department will be enlarged to provide wider services.

The idea for obtaining larger quarters for vastly expanded service to members and the building public was born six months ago. Since that time president Nathan Manilow and past president George Nixon have been engaged in studies and analyses to determine whether the association was ready to undertake the responsibility for so ambitious a program. When the results were all tabulated they were submitted to the board of directors, who weighed and examined them from every viewpoint. Finally, on August 20, the board authorized the leasing of the premises from the Hotel Sherman for a period of ten years. Tentative rental prices were placed on the exhibit spaces. The rates are predicated on estimated costs of rental, maintenance and supervision. Potential exhibitors to whom the estimated rental prices were submitted declared the charges to be reasonable. At mid-September, when the project was announced formally, no definite commitments had been made to prospective exhibitors.

Barring unforeseen delays, the center should be ready for occupancy soon after the beginning of 1948. An appropriate opening ceremony is being planned, for which widespread publicity will be sought as a means of inducing home seekers to begin making immediate use of the facilities and services.



MARTIN C. HUGGETT.  
Executive Vice President

downtown headquarters. In addition, Hotel Sherman, less than one hundred feet from the entrance to the center, will turn over to the association for its exclusive use a private basement dining room. The dining room will serve as a luncheon and dinner club for the association members.

The new center is situated at the northeast corner of Randolph and La Salle Streets in downtown Chicago. Directly across the street is the combined City Hall and County Building, where building permits are issued. Across the street to the west is the new Illinois State Office Building, and the southwest corner and block contains the Bismarck Hotel and a theatre and office building. LaSalle St., a wide, improved thoroughfare, is an important traffic artery to the Loop. Heavy vehicle and pedestrian traffic in the vicinity is expected to establish the new center at once as the mecca of all who are interested in home building.

The structure is a graceful adaptation of modified "Adam," faced with semi-glazed, white terra cotta. Entrance is to the street-level floor through a revolving door at the

EXTERIOR of building leased by Chicago Metropolitan Home Builders to be completely occupied by new home building center for the Chicago area.



© 1947, CHICAGO METROPOLITAN HOME BUILDERS ASSOCIATION

## Arrangements Shaping Up for 1948 Double Header NAHB Convention and Show

More than forty firms seeking space for display of their products were not accommodated at the 1947 NAHB convention and exposition because of lack of space. The 1948 exhibits, therefore, will be housed in two hotels one city block apart, and both located on Michigan Boulevard. To the 33,000 square feet of exhibit space available in the exhibit hall of the Stevens Hotel will be added the entire Casino Room in the recently redecorated Congress Hotel.

The record crowd of builders, architects, engineers, retail lumbermen and others who attended the 1947 convention probably will be surpassed in 1948. Figures on attendance last year revealed that 13,080 active members of the several segments of the home building industry came from every state in the nation, and from five foreign countries. Increased attendance this year will be accounted for by both domestic and foreign members and visitors.

Large increases in hotel room accommodations have been secured by convention director Paul S. Van Auken, and it is expected that all will find rooms in hotels located conveniently to the convention headquarters next February.

The program will include hard-hitting panels and forums on land planning and subdivisions, house design, construction techniques, improved cost accounting, building codes, modern selling devices and practices, with a few selected speakers who are recognized specialists in their fields, and who are schooled in delivering their subjects with telling effectiveness.

Exhibit space is now being sold, and room reservations are being taken. The first assignments of exhibit space will be made

on October 15. Only a few changes have been made in the layout of booth space in the Stevens Hotel. These comprise a few additional larger spaces to meet demand.

Actually, the meeting will start before February 22, the formal opening. Board meetings and committee meetings will be held on the Friday and Saturday preceding the twenty-second, in order to give members of these groups an opportunity to participate in the panels and forums, and to spend all the time they desire viewing the exhibits.

Morning sessions of the convention will be given over to a series of clinics on construction techniques, design, application, and all other important phases of home building. Eight or ten such clinics probably will be conducted simultaneously, with the facilities of both hotels being used. Complete details of the program are being worked on during the fall months, and will be announced in time to enable members of the association, exhibitors and visitors to work out their individual schedules of meetings to attend, with time for close study of the exhibits. In previous years all clinics and business sessions have been conducted in the Stevens Hotel. At the forthcoming 1948 convention and exposition, these meetings will be conducted in both the Stevens and the Congress Hotels, which are only one block apart.

A wide variety of subjects with interest to all segments of the home building industry will be discussed in sessions at both hotels during the week of the convention. This will not only permit a more comprehensive program but will tend to avoid overcrowding and confusion as a result of having too many meetings in one hotel.

## Joint Public Relations Program Now Under Way in California

For several months individual home builders' associations in northern California have been talking about public relations programs. It was decided finally that a more effective job could be done for the home building industry if the several associations

San Joaquin, San Mateo, Fresno and Sacramento counties. The campaign, to extend over a period of a year, beginning in October, embodies six points, and will be under the direction of an advertising agency, chosen from a group under consideration.

The six points are: (1) display advertising in metropolitan Sunday papers, supplemented by local and metropolitan classified ads; (2) radio programs on two stations each offering complete coverage of the area; (3) pamphlets for distribution in connection with radio and newspaper advertising; (4) a speakers' bureau comprised of active builders; (5) creation of a symbol or seal of approval to be displayed on every home built by members; (6) a press bureau to supply full information for news and editorial writers and radio newscasters and commentators.

Cost of the campaign will be about \$75,000, with two-thirds of the amount being spent in the first six months.

A committee to study the problem was headed by Earl Smith, president of the Alameda County Home Builders. Other members of the committee are Earl Popovich, vice president, Associated Home Builders of San Francisco, and Axel Johnson, Peninsula General Contractors and Builders. Thomas E. Delehanty, public relations director of the San Francisco association, is acting coordinator and committee secretary.



EARL SMITH

pooled their resources to create a joint program. The result was the formation of the Home Builders Council of California, made up of the home builders' associations in San Francisco, Marin, Alameda, Contra Costa,

## Millwork Distributors and Manufacturers Hear Gerholz

Featured banquet speaker at the annual convention of the Woodwork Jobbers Service Bureau, held in Chicago, September 4 and 5, was Robert P. Gerholz, nationally known home builder and past president of NAHB. Mr. Gerholz appeared before 350 of the largest manufacturers and distribu-



ROBERT P. GERHOLZ

tors of sash, doors and millwork in the middle west.

Choosing for his subject, "The Future of Free Private Enterprise," Mr. Gerholz traced his association's fight against the intrusion of public housing and the deteriorating effects of the OPA. He outlined the contests that lie ahead, and that must be fought to a conclusion in Congress next year, and appealed to his listeners to lend every possible support, while commanding them on the support already given.

The speaker closed on a high note of patriotism for which he is noted, and predicted that the fiber of private enterprise is so firmly rooted in all Americans that it cannot be snuffed out simply by a noisy minority, provided that the great disorganized majorities of business men and their informed office and factory employees unite in defense of their rights as free men.

## Denver Builders Back Great Activity With Home Show

With 3,500 new homes under construction, and plans to begin 1,000 new rental units during October, members of the Denver Association of Home Builders are taking time out from October 11 to 19 to demonstrate their activities and abilities with a home show.

The show, described by Ray W. Odell, president of the association as "Denver's first and the Rocky Mountain region's finest exposition of home building, furnishing and equipping," will be held in the Denver auditorium annex. More than 80 per cent of the show space had been sold by September 1. Display space is arranged on two levels, and Mr. Odell expects an attendance of 100,000.

A feature of the show will be a model home designed to fit the needs of a large part of Denver's population increase since 1940. National Home Shows, Inc., of Dallas, Texas, handled arrangements for the Denver Association.

## Haverstick Speaks To Lansing Builders

Joseph Haverstick, executive committee-man of NAHB and past president of the Ohio Home Builders Association, was the speaker at the September meeting of the Lansing Home Builders Association. The meeting, which followed a dinner held on September 2, was attended by 75 members. Mr. Haverstick reviewed past activities and accomplishments of NAHB, and outlined future plans of the national. He dwelt at length on the part NAHB and its officers have played in freeing the industry of gov-



JOSEPH HAVERSTICK

ernment controls, and emphasized the importance of organization at both local and national levels to fight the dead hand of socialism. Pointing to the coming battle over the public housing issue, the speaker urged increased membership and better public relations as the surest way to defeat the Taft-Ellender-Wagner bill and other socialistic measures that may be introduced in Congress.

## Cincinnatians Conduct Press Tour of Local Operations

Representatives of local daily newspapers and several invited editors of building magazines were the guests of the Home Builders Association of Greater Cincinnati on September 17, when the party was taken on a tour of home building operations in and around the city.

The tour, requiring most of the day, was designed to give the local press particularly an idea of the widespread activity on the part of the Cincinnati home builders. The trip was an eye-opener to most of the reporters and department editors of the local daily papers. Included in each automobile that made up the tour, was an informed member of the association to answer all questions, and provide authentic information about the developments visited. Lunch was served. Dick Sandberg, executive secretary, reported that in his opinion the effect of the tour will offset the negative claims of government housing advocates concerning apathy on the part of private builders. The tour provided first hand information on values being built into today's homes, information it is difficult for many writers on consumer publications to obtain without a conducted tour such as this.

## Cortright's Column

By Frank W. Cortright

Executive Vice-President, National Association of Home Builders of the United States



**Housing** is the greatest single domestic issue facing this country of ours today.

**One can** seldom read his newspaper, listen to the radio, or attend a civic gathering without being reminded freshly of the housing problem.

It is the subject of sermons from the pulpits, of articles in current issues of periodicals, of many an address before organizations of all types.

It also occupies the number one position on the agenda of the major veterans' groups at their national conventions this year.

**The American Legion**, largest of the veterans' organizations in this country, despite a vociferous minority, took a strong stand against the T-E-W bill when the housing question came up at their recent conclave in New York.

This was in effect a spirited defense of the much-maligned private housing industry. With this mandate of the veterans to keep up the good work as an inspiration, home builders shall proceed with renewed vigor to beat the housing Hydra into submission.

**Perhaps now** those propagandists who have used the veterans as their rallying point for irresponsible ranting reflecting on the ability of private industry and who have offered public housing as the only solution for a nation's ills will be subdued for a while.

The private building industry in recent months has approached the all-time record for home construction set in the mid-twenties. Yet there are still those who seemingly still expect the impossible and charge the industry is incompetent to cope with the situation.

**Builders have** already completed nearly three times as many houses this year as last despite being hampered by a continued shortage of certain critical materials and the limited number of skilled building mechanics in this country—conditions which necessarily limit the maximum output possible.

Rome wasn't built in a day and neither will the problem resulting from a pent-up demand piled up over nearly four war years be solved in an instant. But we're well along the way.

**Builders have** made almost unbelievable strides in supplying the houses needed. With the continued backing of veterans and other patriotic groups the private building industry can be counted on to deliver the goods in the shortest period possible.



FRANK W. CORTRIGHT  
Introducing President  
Edward Carr at the re-  
cent executive meeting  
in San Francisco, Calif.

## Rochester Home Builders Cooperating in G.I. Non-Profit Rental Housing Project

The Rochester Home Builders' Association broke ground early in September for Romona Park, a rental housing development for G.I. families that will contain 136 units. The project is a cooperative undertaking with the City of Rochester furnishing the land, and doing much of the on-site improvements in the way of sewers and streets.

Several savings and commercial banks are cooperating to advance the necessary funds,

and to back 608 FHA mortgages at a low interest rate. Members of the Rochester Home Builders Association are advancing the front money, and acting as sponsors of the project. The setup is non-profit, with a board of directors made up of members of the home builders' association and officers of cooperating banks. Joseph Entress, president of RHBA, has devoted several months to the preparation of the project, and is being accorded praise for his time and effort.



**ROCHESTER** Builders are shown planning Ramona Park, a non-profit project. Seated, (left to right): C. Storrs, architect; J. Raymond Tobin, executive secretary, RHBA; M. Sanford Abbey, vice president, RHBA; Emil Muller; Charles Marshall, vice president Central Trust Co.; Mortimer F. Merrill; Alfred Gertis, regional FHA director; Harry Abel, FHA. Standing, (left to right): Leland T. Pfanz; Joseph Entress, president, RHBA.

## Ohio Builders Hold Annual Convention December 4 and 5

A. J. Alexander, president, Ohio Home Builders Association, has announced that the 1947 convention of the association will be held at the Hotel Gibson, Cincinnati, on December 4 and 5. The program will consist of a number of feature speeches, together with several forums dealing with subjects of particular interest to home builders planning operations for 1948. The 1946 convention, held at Columbus, attracted a record attendance. The meeting this year is expected at least to equal the 1946 attendance figure, and it is suggested that room reservations be made early.

## Carr and Meyerhoff Stop at Portland on Return from West

Returning from the directors meeting held recently in California, President Ed Carr and past president Joe Meyerhoff, with their families, stopped at Portland, Ore., as the guests of the Portland Home Builders Association.

Shortly after the party arrived, Mr. Carr was interviewed by Bob Thomas, with the interview broadcast over radio station KEX. The visitors were taken on an inspection tour of Portland home building projects, and met with the PHBA executive committee.

Mr. Carr expressed great satisfaction

with the relations existing between Portland employers and labor, these harmonious relationships resulting from the ability of the Home Builders' Labor Relations committee and the Building and Construction Trades Council to meet on common ground.

## Minneapolis Builders Hold First of Season's Meetings

Regular monthly meetings of the Minneapolis Contractors and Builders Association were resumed for the fall and winter season on September 3. This kick-off meeting was held at the Minneapolis Athletic Club and attracted nearly every member of the association. R. J. Hendershott, executive secretary, reported that the features of the meeting were a talk on household appliances, emphasizing availability and improvement over prewar items, and a showing of the 1947 NAHB annual convention movies. The showing of the movies indicated, as it has in many other local association meetings, that a larger delegation from Minneapolis probably will attend the 1948 convention.

## Dallas Group Stages Gala Party

Two hundred members of the Dallas Home Builders Association, and their wives recently celebrated the construction of nearly 6,000 new homes in their city during 1947 with a gala party at the lake home of Grover Godfrey, executive secretary.

## Cleveland Home Builders Group Clears Contractor of Charges

An investigating committee set up by the Home Builders Association of Greater Cleveland described as "unfounded" charges brought against Chekford Builders, Inc., by eighteen purchasers of the company's houses.

Nick Molnar, head of the committee and past president of the association, said investigation disclosed that workmanship was up to standard, and that the firm was willing to follow the general practice of making necessary repairs. He said that substitute materials, where used, were of as good quality, and cost at least as much as those specified in the contract.

The home builders' association ordered the investigation after eighteen owners filed damage suits in Common Pleas Court, charging the houses did not meet specifications.

James V. Funero, executive director of the association, disclosed meanwhile that fourteen of the original plaintiffs had withdrawn their suits, or had signed affidavits indicating their intention to withdraw. Eighty-three homes were under construction in the Chekford development.

Meeting in executive session, the officers of the association expressed satisfaction at the withdrawal of the suits against Chekford Homes, Inc.

President Benton Lefton stated that the association was ready to become an active participant in any court action that might have developed. Mr. Molnar reported that builders who had investigated the charges that substitution of materials had been made for profit motives, were unanimous in their opinion that the substitutions had not only cost more than those originally specified, but were stronger.

"Those homes could not be duplicated for less than \$2,000 more than the present contract price," declared Mr. Molnar. "Wherever substitutions had been made, such action was only taken as an expedient to get more veterans under roof. Mr. Chekford is to be commended for his resourcefulness in rushing homes to completion."

## Boston Builders Hold First Fall Dinner Meeting and Program

The Crystal Room in Hotel Kenmore in Boston was the scene of the first fall dinner meeting of the Home Builders Association of Greater Boston. Attendance was augmented by the presence of home builders from other parts of Massachusetts, and from associations in Maine, New Hampshire, Rhode Island and Connecticut.

Feature of the program was a thorough discussion of radiant heat by a panel of recognized experts on the subject. Following the panel discussion, questions from the floor were answered. The discussion was preceded by slides and moving pictures to give the audience some background before the panel members began their part of the program. In the opinion of Charles R. Brunelle, executive secretary of the association, the program was one of the most informative held thus far in Boston. The evening began at 6:30 with a cocktail party, followed by dinner at seven.

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**Radiant heat  
rates first with me**



**Convection heat  
rates first with me**

## Modine Convector Radiation give you BOTH of these great heating principles blended into one!



### YOU GET RADIANT HEATING

See those arrows coming from the Modine Convector Panel below the window? That's radiant heating — mild, radiant heat in just enough quantity to offset heat loss from window areas. But that's not all . . .

2

### YOU GET CONVECTION HEATING

These arrows indicate convection heating! Hot water or steam passes through copper heating unit which draws cooler, floorline air into bottom of convector where it's warmed, rises and then passes out through grille.

**Result:** Dependable new hot water and steam heating comfort for moderate cost homes, apartments, commercial and institutional buildings... distinctive room charm and cleanliness without unsightly radiators! Modine Convector Radiation gives you a modern, blended heating system for modern living — a heating system that provides individual room control — that responds almost instantly to sensitive automatic controls — that gives you gentle air circulation without the use of moving parts that wear out. If you're planning to build or modernize, think of Modine Convector Radiation...look for Modine's representative in the "Where-to-Buy-it" section of your phone book...or send in coupon now for new, free Convector Booklet! MODINE MANUFACTURING CO., 1501 Dekoven Street, Racine, Wisconsin.



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EASY TO  
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ADDS TO  
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PRICED  
FOR TODAY'S  
HOMES AND  
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 Yes I want your new free booklet containing complete  
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# PORCH REMODELED WITH .

## **WALLED-IN COMFORT, ALL YEAR LONG WITH ANDERSEN CASEMENTS**

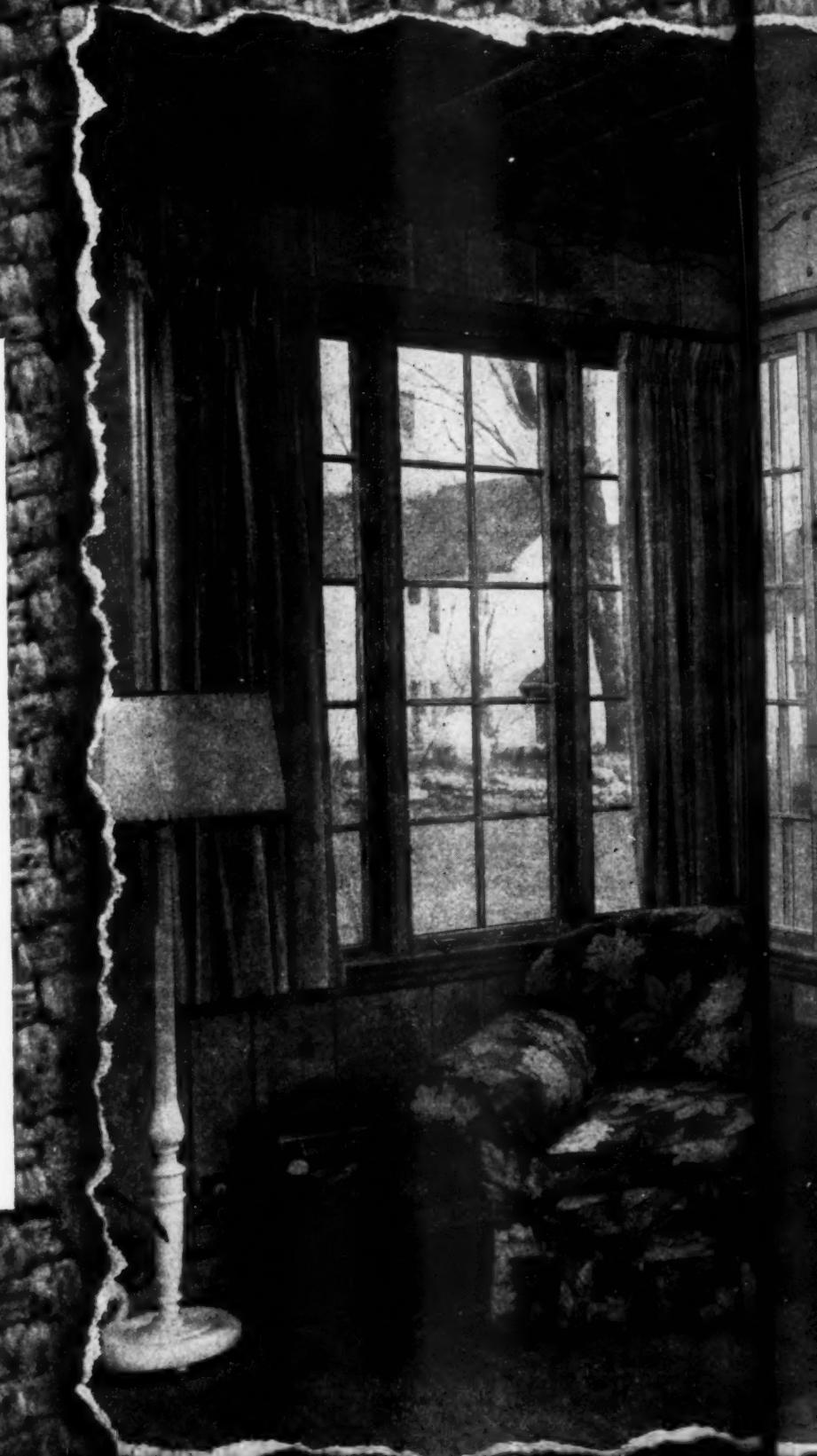
Adding another room is fairly easy when there's an open porch to start with. You just WINDOWALL the area on three sides.

This porch now provides comfort the year around—weathertight and leakproof in the winter months, open wide to fresh air and sunshine in the spring, summer and fall.

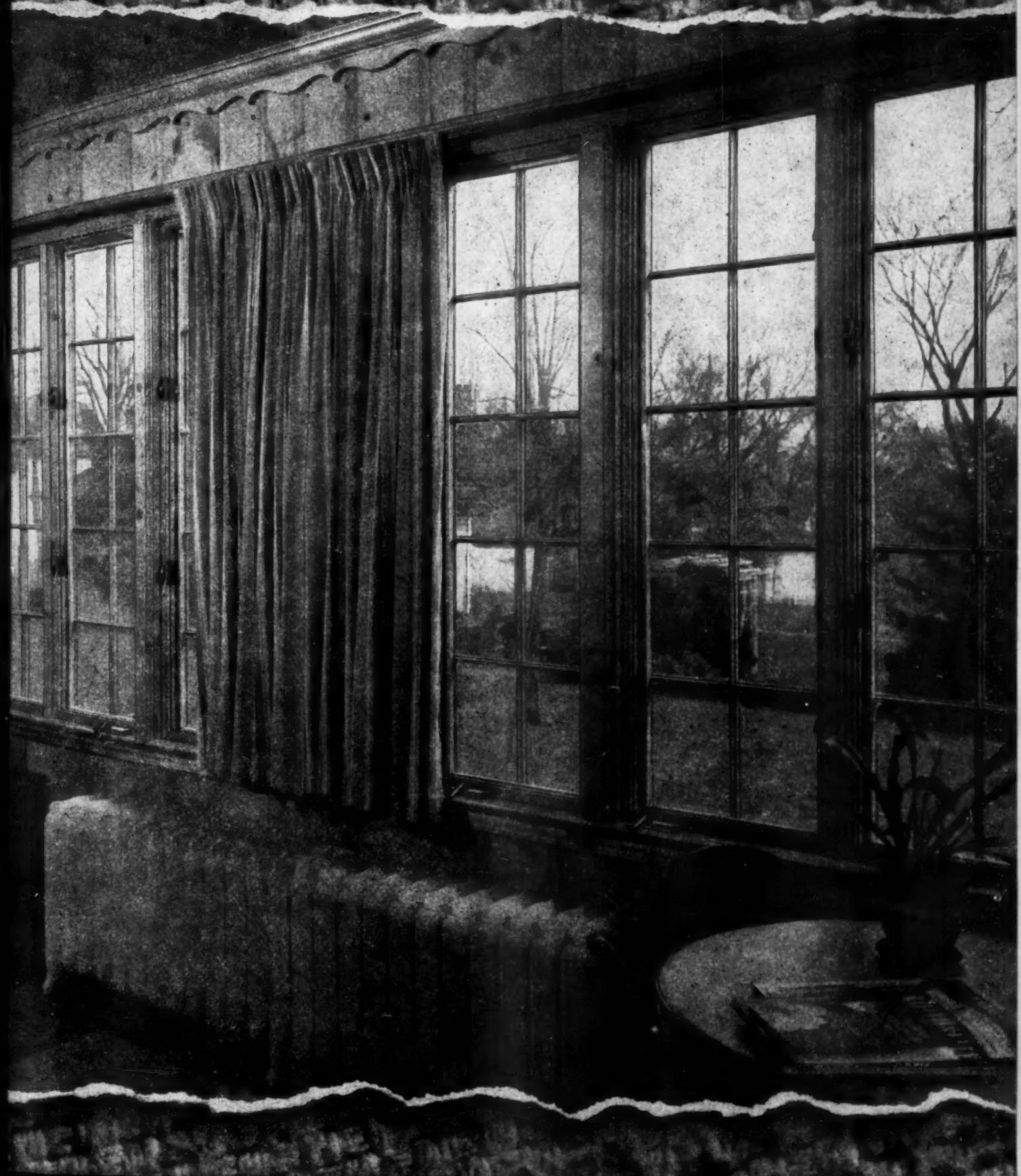
This WINDOWALL is made by combining Andersen Wood Casement Window Units. It functions both as wall and window.

For complete details see SWEET's—or write Andersen.

*Andersen Corporation*  
BAYPORT • MINNESOTA



# *Windowalls*



Will the  
roof last?

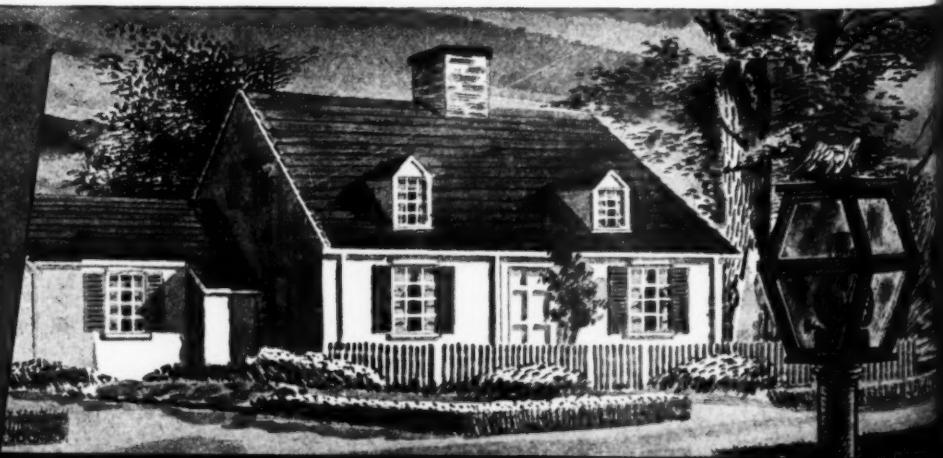


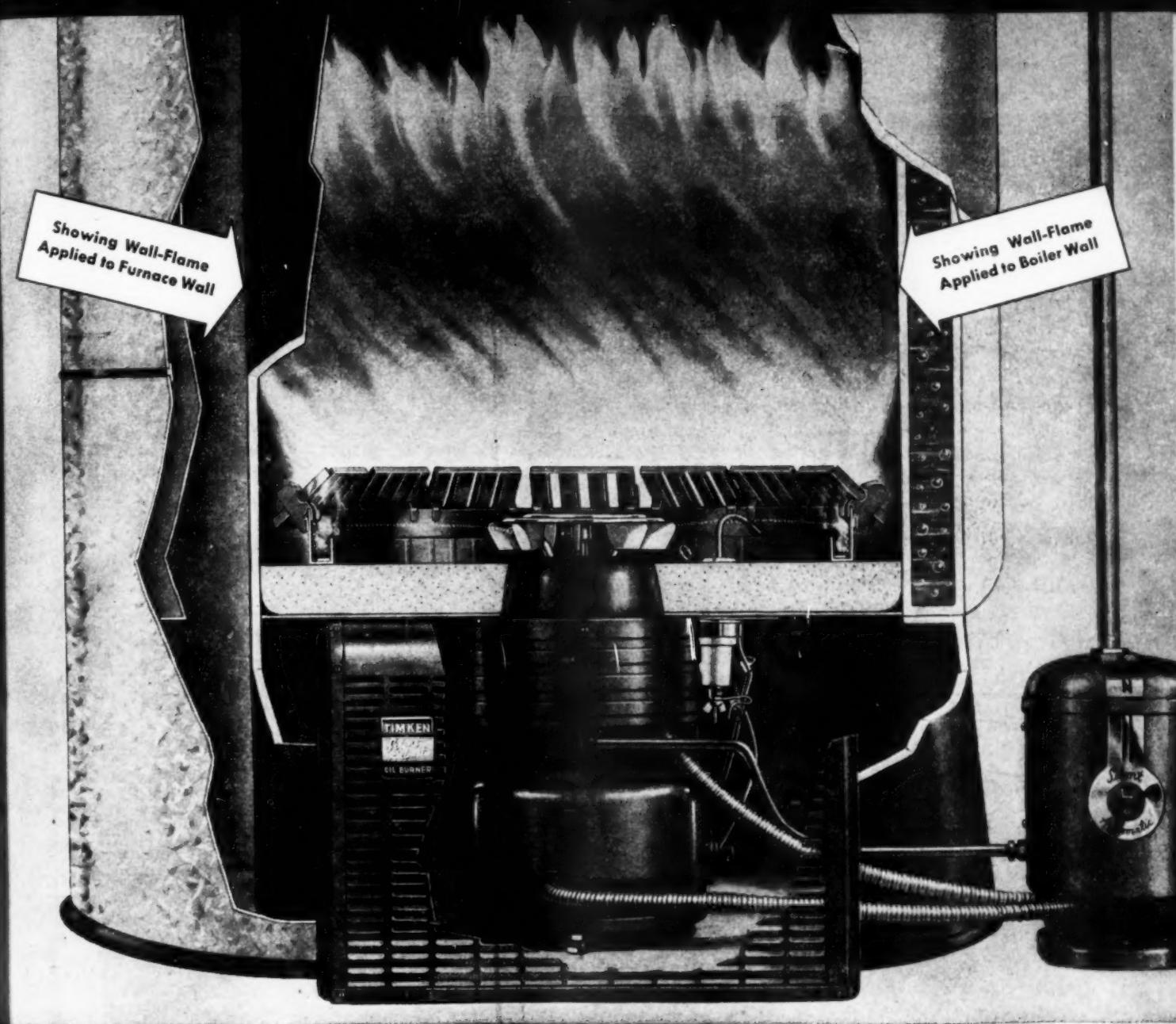
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what they say  
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PEOPLE KNOW AND PREFER  
POST-ADVERTISED PRODUCTS

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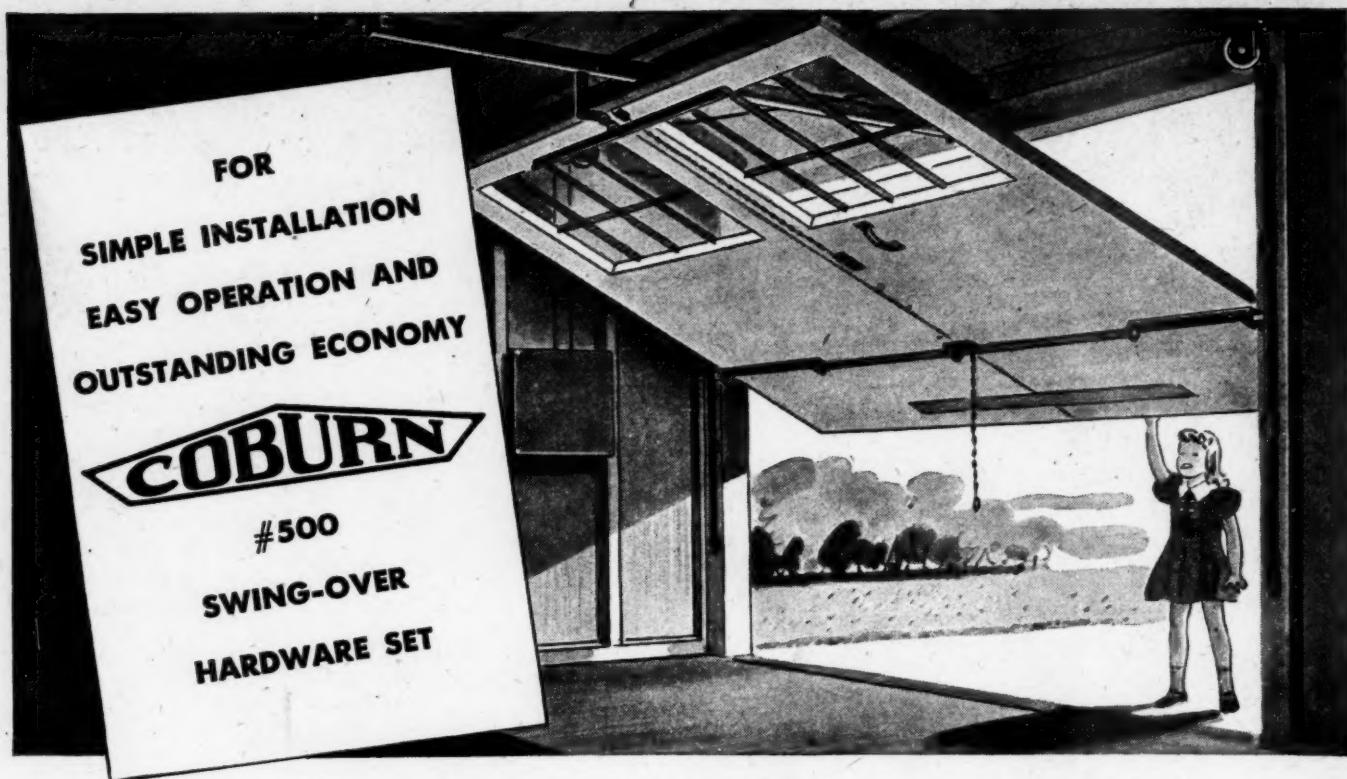
## BASICALLY DIFFERENT—BASICALLY BETTER THE FINEST OIL BURNER MONEY CAN BUY

Fuel savings of one gallon in every four are common among Timken Owners.

**TIMKEN**  
*Silent Automatic*  
**OIL HEAT**

TIMKEN SILENT AUTOMATIC DIVISION  
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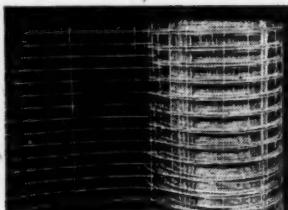


**I**N GARAGE DOOR remodeling, smooth operating overhead doors are fast replacing the troublesome swinging type... and the many advantages of the Coburn #500 Hardware Set have made it a leader in the field.

The Coburn #500 Set is designed to make installation easy, foolproof and adaptable to practically all types of garages. Perfect counterbalance assures effortless operation. Coburn #500 is economical too, for even though it is high in quality, its cost is in the lowest price field.

Write today for catalog containing full information on the Coburn #500 Set and on hardware for numerous types of sliding doors—garage, barn, wardrobe, cabinet.

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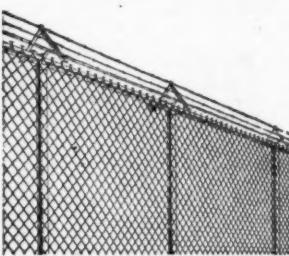
**Clinton Welded Wire Fabric**

For every type of concrete reinforcement. High, uniform tensile strength. Wide range of styles in gauge and spacing. In sheets or rolls cut to size. Easy to store and install.



**"Clinton" Brand Hardware Cloth**

Made of cold-drawn carbon steel, heavily galvanized after weaving to give added strength at intersections. In all standard meshes and widths.



**Realock Chain Link Fence**

Tamper-proof and weather-resistant. Galvanized before and after weaving. Special designs for industrial plants, institutions and residences. Write for catalog.



**"Perfection" Brand Door Springs**

Made of selected wire and carefully jpanned. Unequalled for toughness, durability and resistance to rust.



**Wickwire Spencer Wire Rope**

In all sizes and constructions for every need.



AMERICAN WIRE FABRICS INSECT SCREENING MADE BY

**WICKWIRE SPENCER**

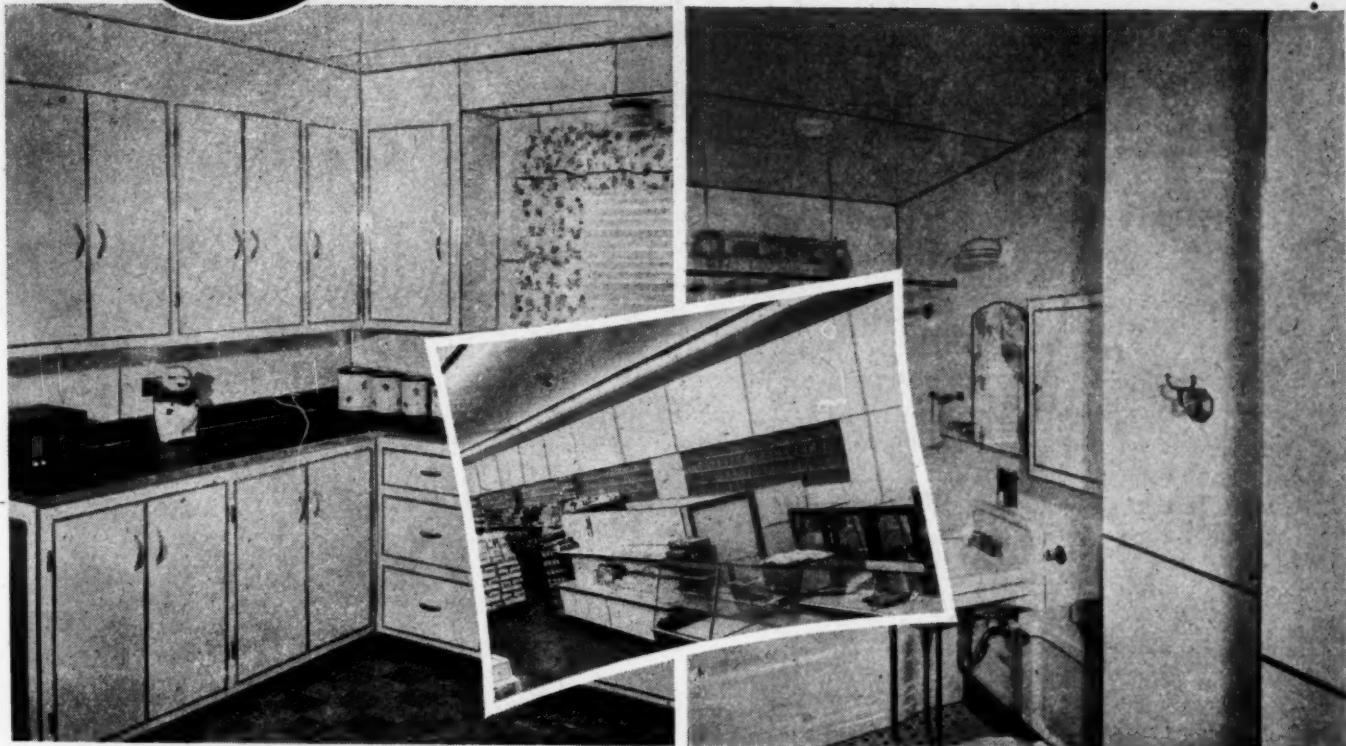
A DIVISION OF THE COLORADO FUEL AND IRON CORPORATION  
500 FIFTH AVENUE

*Steel*  
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Boston • Buffalo • Chicago • Dallas • Denver • Philadelphia • Pacific Coast—The California Wire Cloth Co., Oakland 6, Cal.

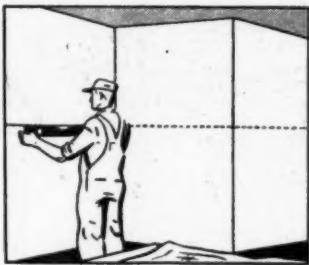
plan on  
**Marlite**  
walls

FOR Any ROOM...IN Any BUILDING

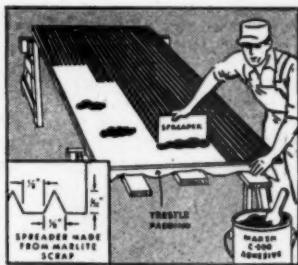


In homes and offices, stores and public buildings - wherever attractive, efficient interiors are required - that's the place to plan on Marlite plastic-finished wall and ceiling panels. In colors and patterns to meet any decorative treatment - from gay, color-

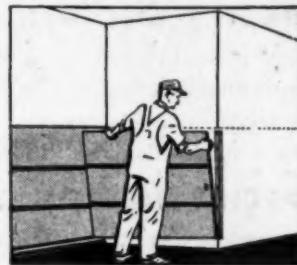
ful kitchens to rich, dignified executive offices - Marlite is the choice of builders who know about its ease of installation and resistance to dirt, grime and moisture. Sold by leading dealers everywhere. Marsh Wall Products, Inc., 1003 Main Street, Dover, Ohio.



For wainscot installation, draw level line at desired panel height. Cut panel to size with saw and plane.



Apply Marsh Mastic cement uniformly to the back of the panel.



Install Marlite "panel-tested" mouldings for a job of finished beauty. Place panel on the wall.

Allocation of deliveries of Marlite is being continued temporarily; Marlite Mouldings, for added beauty on any wall panel installation, and Marlite adhesives, are available now at your dealer.



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**complete line of**  
**MODERN DESIGN**  
**SHOWER CABINETS**

Speed up building—specify Tiletone. For when time counts, you can count on Tiletone for immediate delivery. Here's a complete line of shower cabinets with three styles from which to choose. All modern design—metal walls! For built-in installation, Tiletone's de luxe cabinet combines streamlined beauty with complete utility. For basement installation, Tiletone's metal utility cabinet meets the need. When modern corner installation is the demand—Tiletone offers models strikingly new and different. In new homes or old...a second bathroom, or basement installation...in office buildings, clubs, apartments or hotels, Tiletone has the models you can recommend with confidence.

**WHY SPECIFY SHOWER CABINETS?**

1. A new pre-sold market is here...big demand.
2. Assured satisfaction for the home owner.
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**WHY SPECIFY TILETONE?**

1. A complete line...3 popular styles.
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*Shower Cabinets*

**TILETONE COMPANY**  
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**MODEL 75**

Sizes: 32" x 32" x 80"  
36" x 36" x 80" and  
40" x 40" x 80" Corner.

Terrazzo receptor • White Dura-Bond enameled aluminum cabinet • Interior lights • Anodized aluminum glass doors • Adjustable shower head • Dial type mixing valve.



**MODEL 45**

Size 32" x 32" x 76"  
Porcelain enameled receptor • Aluminum panels finished in white enamel • Shower curtain • Shower head • Dual shower valves.



**MODEL 35**

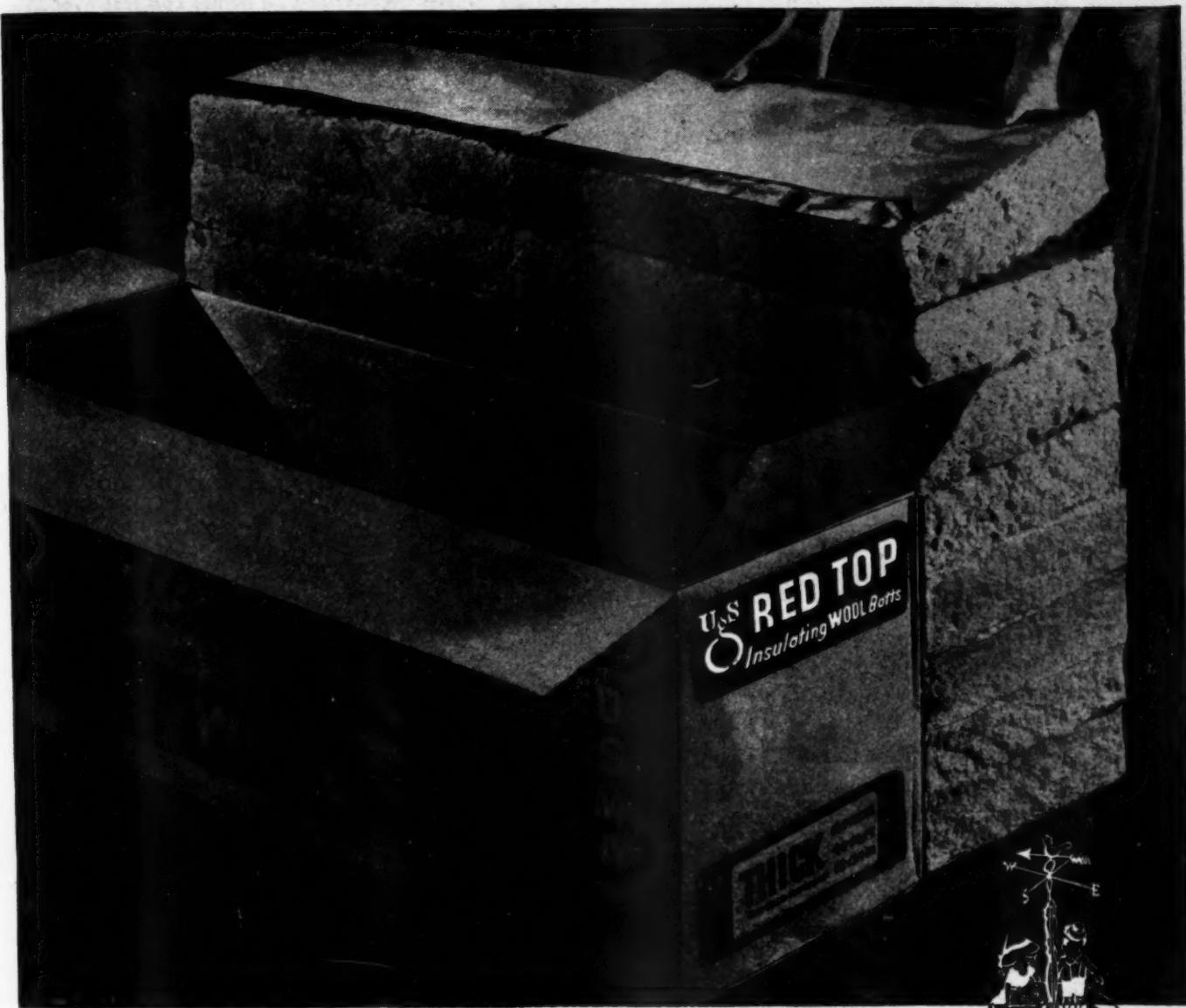
Sizes: 32" x 32" x 80"  
36" x 36" x 80" and  
40" x 40" x 80" Corner.

Terrazzo or porcelain enameled receptor • White Dura-Bond enameled aluminum cabinet • Shower curtains • Shower head • Dual shower valves.



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**Important RED TOP\* Advantages**

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RED TOP has acceptance and preference that present a decided plus in housing values.

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Available in batts and granulated form both 2- and 3-in. batts in sizes 15 in. x 24 in., 15 in. x 48 in., 23 in. x 24 in., and 23 in. x 48 in. for 16 in. and 24 in. spacings.



It's always fair weather  
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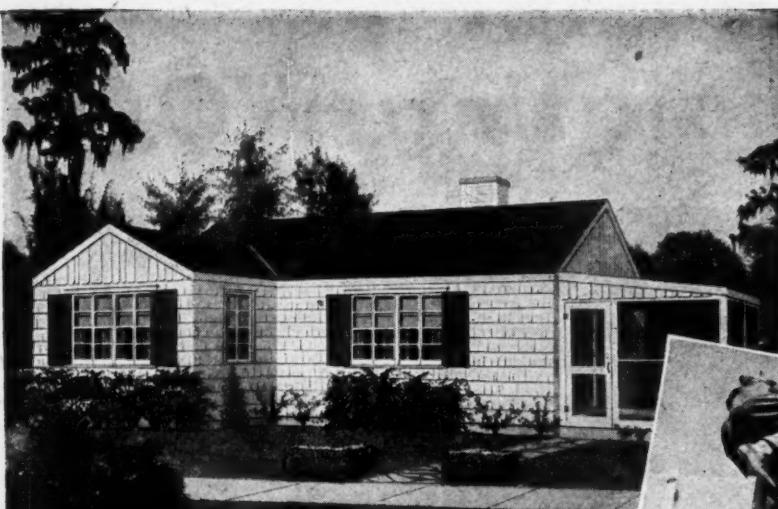
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That's why homes built of Arkansas Soft Pine save their owners many times the slightly higher first cost of well-seasoned, bright, precision-manufactured trim, finish and framing lumber.

Arkansas Soft Pine prevents expensive repairs that go with green lumber jerry building. That's because it's conditioned in humidified air to approved standards of moisture content. Plates, joists, studs, rafters and sheathing, free from shrinking and swelling, stay put. Finished floors do not pull away from baseboards, doors hang plumb, windows don't stick.

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Builders, no less than owners, save money using Arkansas Soft Pine. It conforms to standard sizes and specifications, works fast, imposes no lost time in cutting out defects, protects good workmanship, insures enduring construction.

See this plus value, all purpose, better homes material at your lumber dealer's. You'll admire its light weight and soft texture. Use it on your next job . . . it will pay you better profits.

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*Arkansas Soft Pine  
nails without splitting.  
This means maximum  
strength at load-  
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*End-matched sheathing  
and sub-flooring work  
fast, disregarding stud  
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*Uniform, bright, light-weight  
stock dried to correct mois-  
ture content. No shrinking  
or swelling in hidden  
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*This free Hand-  
book tells you the  
how and why of  
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- A roof of Ruberoid Dubl-Coverage Tite-On Shingles is a powerful selling feature for any house. Prospective home owners will like Tite-On's extra protection and distinctive appearance.

Storms that tear off ordinary shingles just don't budge Tite-Ons. These unusual shingles are different in design. They interweave and interlock so that a Tite-On roof is practically "one-piece." In addition, hidden nails at four points securely hold each shingle. There are no metal strips, no holding gadgets, no exposed nails to rust away. That's why Tite-Ons stay put when other shingles go flying. Once on a roof, there's no prying these firmly anchored shingles loose! A Ruberoid Tite-On Shingle roof means real freedom from roof worries and expensive maintenance costs.

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Trouble-free service isn't all Tite-Ons give you. The smart basket-weave pattern, the clean-cut "American" type shadow-lines and the rich colors of Tite-On Shingles all add up to an extra bonus in distinctive appearance. The exclusive features of Tite-On Shingles—made only by Ruberoid—cannot be duplicated in any other shingle.

Whether for new construction or re-roofing, there's a windproof Tite-On shingle made just for that particular purpose. For *new construction*, Dubl-Coverage Tite-Ons, which give complete double coverage over the entire roof area, offer the maximum in long-life protection. For *re-roofing*, where full double coverage is not a necessity, Standard Tite-On Shingles offer the same windproof protection at a savings in cost.

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**RUBEROID**

**DUBL-COVERAGE TITE-ON SHINGLES**

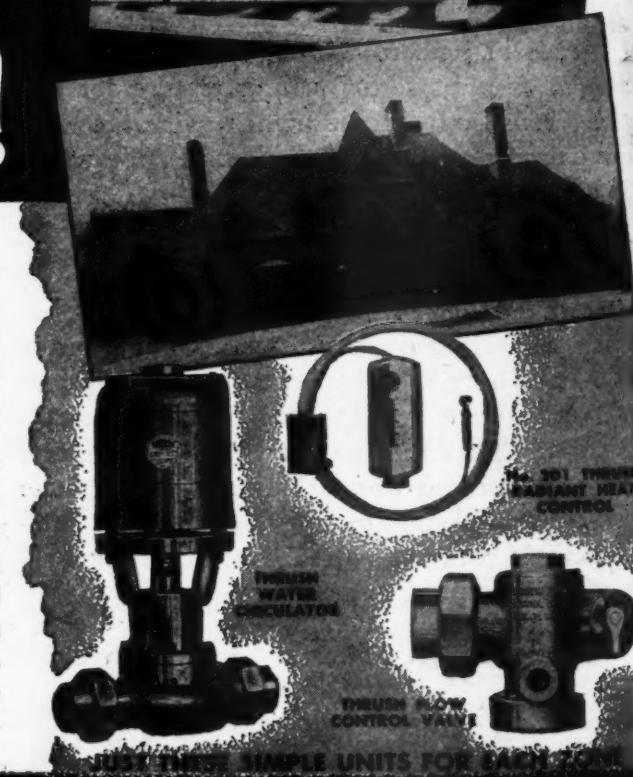
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**REDUCES INSTALLATION  
COSTS AND...**

*Saves Fuel!*

THE SAVINGS reported by owners of apartment houses and multiple-occupancy buildings, made through the use of Thrush Zoning, are truly amazing. One installation in a combined apartment and store building reports a saving of at least 50% for fuel as compared with central city heating formerly used. Larger residences and even small homes may be zoned advantageously so that lower temperatures can be carried in sleeping quarters, garage, or other areas without affecting comfort in the living quarters. Thrush offers the simplest zoning method yet devised, inexpensive to install and requiring only the simple units shown at right for each zone. Get all the facts now from your wholesaler or write Dept. G-10



H. A. THRUSH & COMPANY . . . PERU, INDIANA

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for every  
building need

## Chromtrim METAL MOULDINGS

Name it — CHROMTRIM has it! Keeping pace with the swiftly changing trends in the building industry, CHROMTRIM offers 80—yes, 80—dimensionally accurate profiles to meet the most exacting installation needs.

Three modern finishes—bright lustrous, satin and anodized—for instant eye appeal. Streamlined packaged in 12 foot lengths—120 to 240 feet to the tube, plus nails and screws. CHROMTRIM METAL MOULDINGS are long-lasting, easy to cut, bend easily around corners. CHROMTRIM is in step with the times!

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#### Consumer Merchandising Program

Compact metal moulding floor display unit contains 20 6-ft. lengths each of 8 "easy-to-install" consumer shapes, screws and nails, full color wall display, and 100 6-page consumer folders showing uses of "Trim-it-Yourself," and explaining the "simple as 1-2-3" method of installing.



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Please send complete "Trim-it-Yourself" literature and prices  
or/and catalog on regular Chromtrim line of 80 shapes.

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### R. D. WERNER CO., INC.

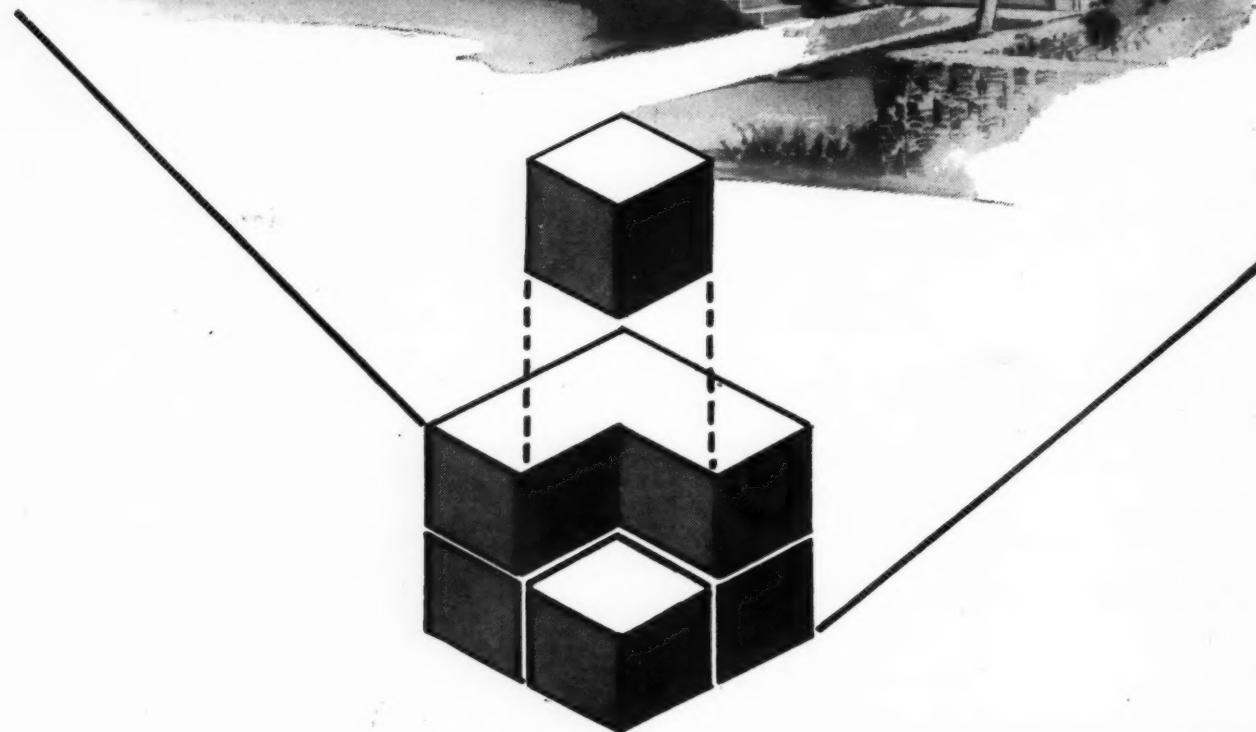
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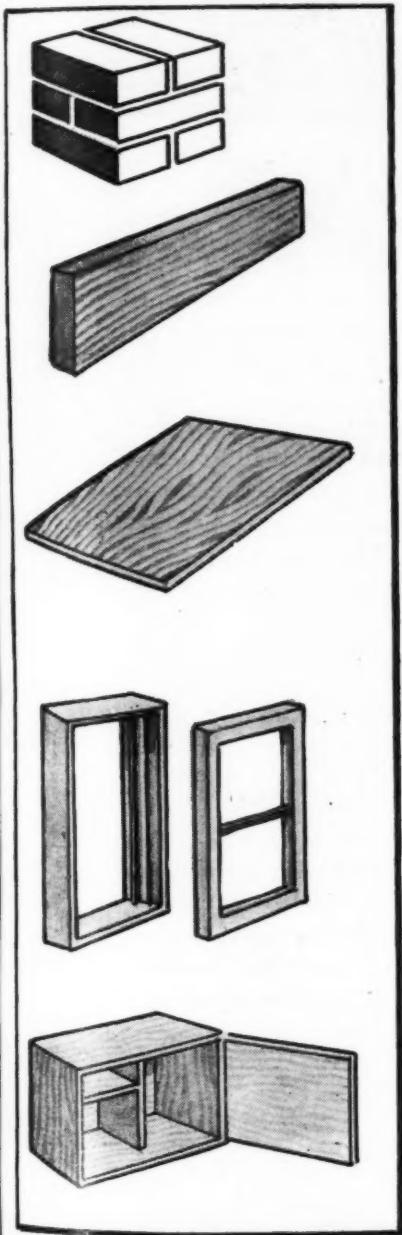
# The Industry Engineered H



The principles illustrated by the Industry Engineered Housing Program are applicable to homes of many sizes and designs.

# Housing Program

## Merits Nation-Wide Support



The National Retail Lumber Dealers' Association and The Producers' Council, with the cooperation of the National Association of Home Builders, are to be congratulated for their joint sponsorship of this significant, far reaching program. Basic to it, of course, is the objective of American business enterprise to deliver ever increasing values.

Now, by coordinating the work of the major factors in the industry, known and tested means of reducing the cost of building a home are being brought together. Greater efficiencies and economies will result.

In the Industry Engineered Housing Program *the dimensions of buildings are being coordinated with the dimensions of building products.*

The program is being built around one basic unit of measurement. This unit, a three-dimensional grid, spaced four inches in each direction, is being accepted as the standard working module.

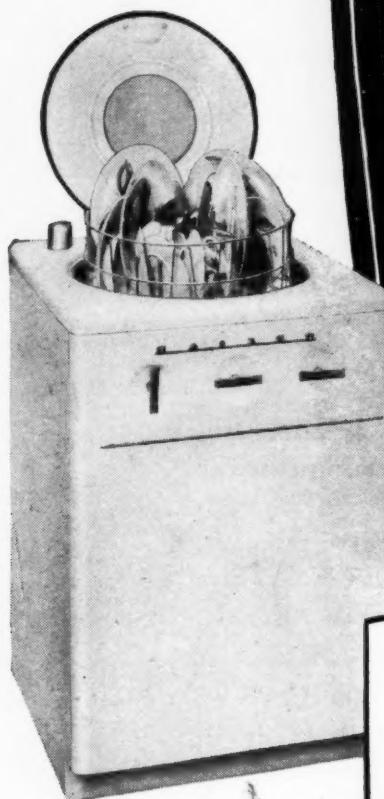
Many manufacturers have already redesigned their products to the four inch module as their contribution to the program. Architects are being urged to use the four inch module in their designing.

Thus the dimensions of buildings are being coordinated with the dimensions of building products and equipment in a joint effort to deliver greater home value at low cost.

As the program progresses, the savings and economies that come from the use of standardized products will be more widely enjoyed.

**WEYERHAEUSER SALES COMPANY**  
SAINT PAUL 1, MINNESOTA

**WEYERHAEUSER 4-SQUARE  
LUMBER AND SERVICES**



BELONGS IN YOUR PLANS

# KAISER

THE AMAZING NEW  
5-MINUTE DISHWASHER

**4 Models  
4 Prices  
FROM \$139<sup>50</sup>**



**NO MOTOR! POWERED BY WATER ONLY!**



**DE LUXE BUILD-IN**

Controls mounted on panel across front of machine. Hydraulic lift is included to raise and lower basket, 2 syphon breakers.



**STANDARD  
BUILD-IN**

Controls centered in knob, left rear corner. Syphon breaker built in. Either model may be installed at any height from floor.

**CLOUDBURST WASHING**

Scientifically placed, re-circulating venturi jets increase actual water circulation four times primary volume. Silent. No vibration.



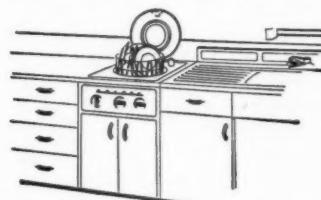
**SAFETY BASKET**  
Precision-balanced—the Kaiser "safety basket" revolves smoothly to pre-rinse, wash and dry dishes sparkling clean.



No matter what size or shape kitchen you lay out—no matter what your building budget—there's a place and a reason for including the amazing new Kaiser Dishwasher.

**Easily adaptable**—De Luxe and Standard cabinet and build-in units. Cabinets fit any 2-ft. square. And the build-ins are readily adaptable to any architectural treatment.

**Simply "plumbed in"**—with only 2 connections: one to hot water, one to drain. No motor; uses no electricity.



**Powered by water**—the natural pressure in the kitchen hot water pipe. Minimum 40 pounds required.

**Sanitary**—one-piece seamless washing basin has no corners or cracks to collect food. Odorless. Cleans itself.



**Built for service**—lightweight, rustproof aluminum. Cabinets and exterior panels finished in baked white enamel, chrome-plated fittings.

**Available immediately**—when you specify "Kaiser" you get delivery now.

Kaiser Fleetwings Sales Corporation  
General Sales Office

1924 Broadway, Oakland 12, California

Please send me A.I.A. file sheet on the new Kaiser Dishwasher. I am an architect  I am a contractor

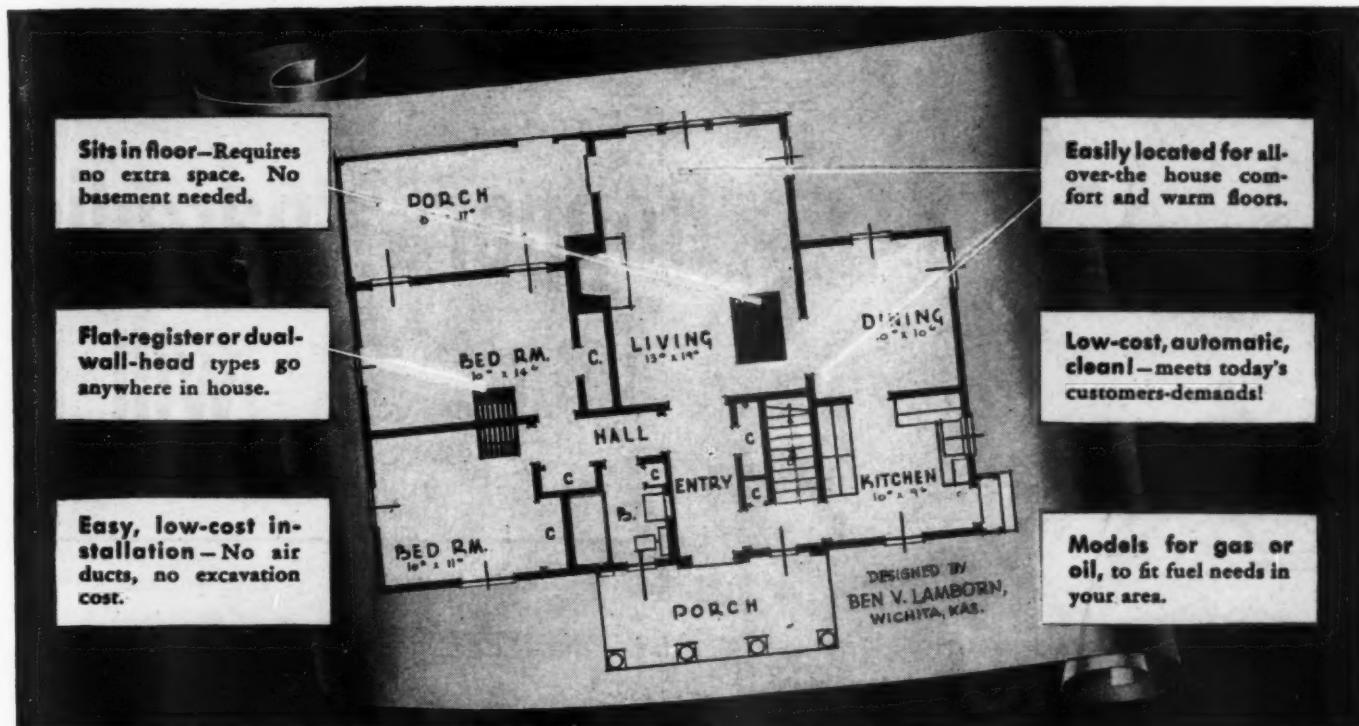
Name and Title \_\_\_\_\_

Firm Name \_\_\_\_\_

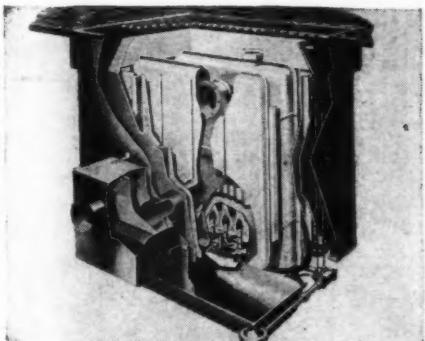
Street \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

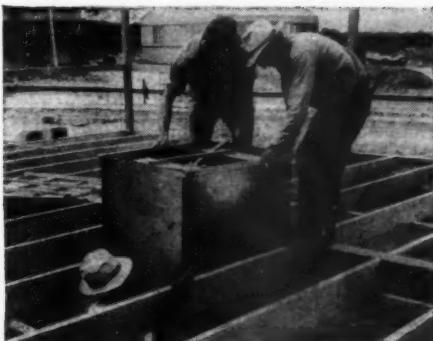
AB-10-47



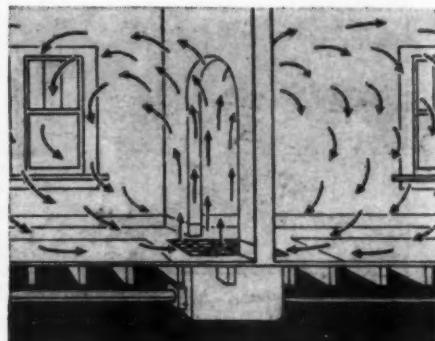
## How Features That Increase Coleman Floor Furnace Popularity ALSO HELP CUT BUILDING COSTS



**Exclusive Coleman features:** Cut-away view, above, shows how Coleman features draw cold air off floor, re-warm it and circulate it 35% faster than obsolete designs, provide unusually even warmth, from ceiling down to well-warmed floors. (Gas, oil or LP-gas models.)



**Easy installation, with or without basement:** In new house, saves basement cost; saves furnace-space in utility room. A complete, packaged unit. Saves cost of ducts. Yet—Coleman engineering often makes it give more efficient heating than many basement furnaces.



**Coleman "Moves-the-Heat":** Cut-away house shows how Coleman Floor Furnace is installed—set in the floor; not above it, not in the basement. Easily hooked to gas or oil lines and to chimney vent. A quick, clean, satisfactory installation in 3 to 4 hours average time.

**Mail Coupon Below, Today!**—for newest illustrated catalog and specification book of Coleman Floor Furnaces—gas, oil and LP Gas models. A money-making piece for your file! The Coleman Co., Inc.

The Coleman Co., Inc., Dept. AB-662 Wichita 1, Kas.; Philadelphia 8, Pa. (Terminal Commerce Bldg.); Los Angeles 54, Calif.

**AUTOMATIC HEATING**



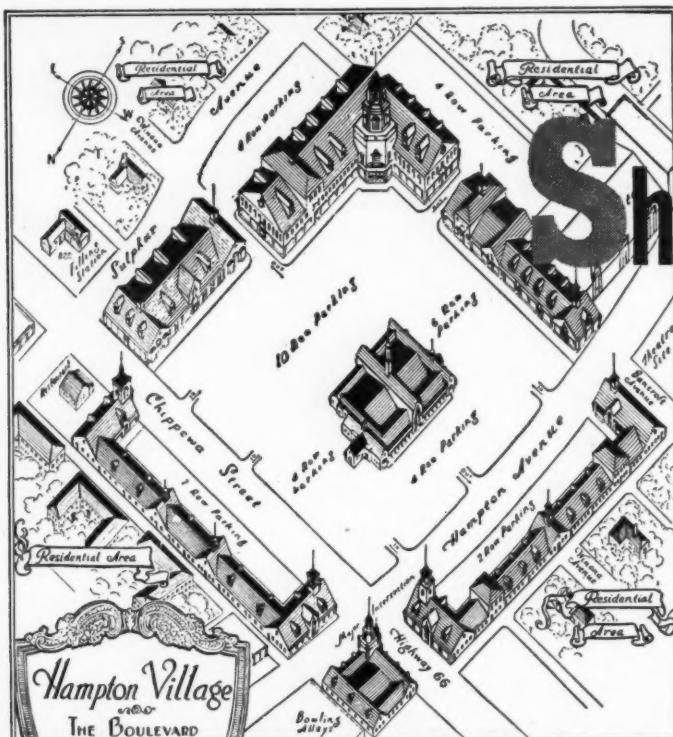
The Coleman Co., Inc., Builder's Contract  
Dept. AB-662, Wichita 1, Kansas

Send me free information about your special cooperation for builders and contractors. Also send Floor Furnace Builder's Catalog.

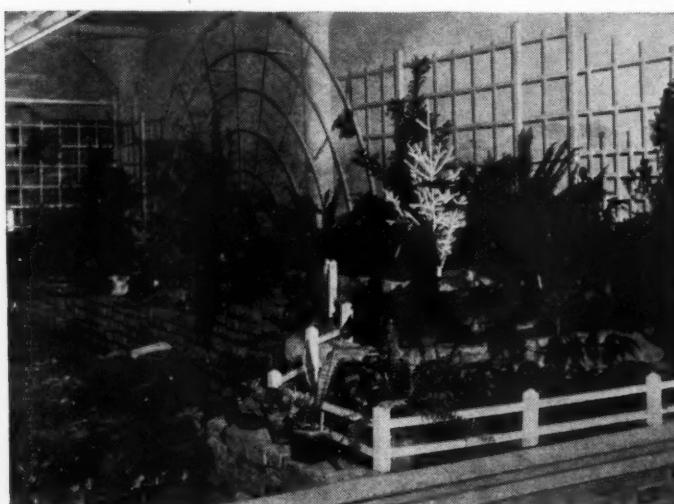
Name \_\_\_\_\_

Address \_\_\_\_\_

Town \_\_\_\_\_ State \_\_\_\_\_



Smartly styled snack bar and cocktail lounge. Servel Air Conditioner keeps customers cool in summer, warm in winter, and clean and comfortable all year 'round . . . helps boost patronage, too.



Modern-designed florist shop. Servel Air Conditioner pays big dividends by keeping flowers fresh and attractive—winter and summer.

# Shoppers' paradise in will be

**From snack bar to florist shop,  
Hampton Village's stores will  
be equipped with Servel All-  
Year Gas Air Conditioning**

**H**AMPTON VILLAGE—located in the midst of one of St. Louis' most fashionable urban and suburban areas—is not only one of the largest drive-in shopping centers in America, but it's the *only* one that will be completely air conditioned. This \$11,000,000 project covers an area equal to 14 city blocks...and will include 110 retail stores.

What's more, every Hampton Village shopper, salesman, and worker will enjoy the comforts and health-giving benefits of Servel All-Year Gas Air Conditioning.



Individual Servel Air Conditioners are installed in each store . . . and controlled by the tenant. Here's a typical basement installation.

Each  
own se  
comple  
by sim  
Servel  
free fr  
All ye  
draft-  
It's  
Servel

Servel, Inc. is a member of the Producers' Council, and is engineering its products to conform with accepted practices in modular planning.

# House in St. Louis All-Year Air Conditioned



Each of the 22 stores now completed has its own self-contained Servel unit. Each tenant has complete control over the temperature in his store by simply using the Servel Selectrol. In summer, Servel circulates air that's refreshingly cool and free from humidity. In winter, the same unit provides comfortable, properly humidified warmth. All year long, Servel keeps the air clean and draft-free.

It's easy to see why Hampton Village chose Servel in preference to other kinds of air condi-

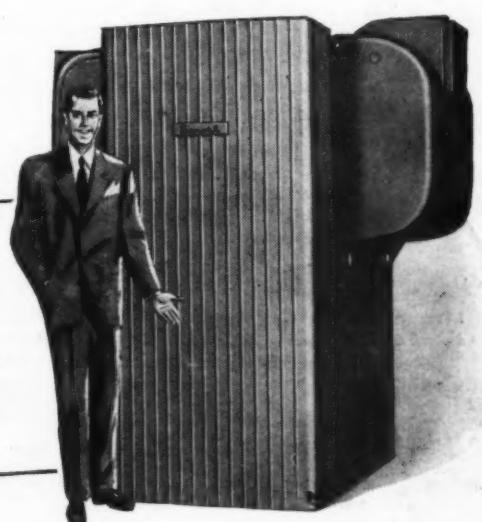
tioning equipment. No other type provides the simplicity of control and flexibility of service. This is especially important in a super shopping center, where the air conditioning must satisfy the practical and comfort requirements of several different kinds of retail businesses.

For complete information on all the advantages and conveniences of Servel All-Year Gas Air Conditioning, see your local Gas Company ... or write to Servel, Inc., 1710 Morton Avenue, Evansville 20, Indiana.

#### TRIED . . . PROVED . . . SUCCESSFUL (From Boston to San Diego . . . From Bismarck to Miami)

The Servel All-Year Gas Air Conditioner is already operating successfully in hundreds of installations from coast to coast. Some have been running for more than seven years. The equipment is tried, tested . . . and approved by users everywhere.

**Servel**  
*All-Year GAS AIR CONDITIONER*



**EASY... does it.**

**GRAND RAPIDS Invizable SASH BALANCE**

**THE PRACTICAL SPIRAL SASH BALANCE**

**Easy to operate . . .** the touch of a finger is enough to raise or lower the ordinary sash. **Easy to install . . .** just drive two fasteners and a screw, that's all! **Easy to specify . . .** because a few standard sizes fit 95% of your jobs. And it's the one balance that's ideal for repairing or modernizing and for narrow trim and corner windows. **Easy to sell . . .** supported by national advertising to 134,445,000 home-minded magazine readers. Tests in the laboratory and in thousands of homes assure smooth lifetime operation in all climates.

**Get Complete Installation Data**

See how Grand Rapids Invizables save time and materials. Write TODAY for fully-illustrated specifications and installation instructions.

**GRAND RAPIDS HARDWARE COMPANY**  
560 11th Street, N.W. • GRAND RAPIDS 2, MICHIGAN  
Quality Leaders In Sash Hardware for 50 Years

**GRAND RAPIDS SASH PULLEYS**

No. 103 face plate, cone bearing type and Nos. 175, 109, 110 sawtooth drive type sash pulleys cover 95% of all sash pulley requirements.

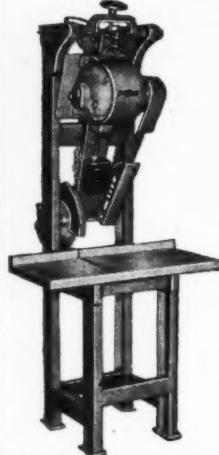
**THE H & A LINE**  
of Quality Woodworking Tools

**H & A EQUIPMENT**  
**does EVERY**  
**Cutting Job...**

**Faster • Easier • Cheaper**

Use one or all of the H & A Woodworking Tools on the job—or in the shop—to handle your cutting needs. All are portable and can be moved right on to the construction area or lumber yard if needed. Together, they handle all kinds of cross-cutting, ripping, dadoing, rabbeting, grooving, tenoning, jointing and shaping operations quickly and easily.

**IMMEDIATE DELIVERY**



MODEL 25 SWING SAW

**H & A Swing Cut-Off Saw**

Makes accurate cross-cuts in dimension stock quicker—easier—and cheaper than any other type of machine. Requires no skill and is safe and easy to operate. Available in three sizes:

Model 5—Capacity: 3" x 12"  
1 H.P. Motor, 10" Blade

Model 25—Capacity: 4" x 14"  
2 H.P. Motor, 14" Blade

Model 55—Capacity: 5" x 16"  
5 H.P. Motor, 16" Blade



14" BAND SAW

**H & A 14" Band Saw**

Works woods, plastics and light metals. Table tilts to 45 degrees . . . allows full 11½" depth of cut. Big throat capacity permits cut to center of 24" circle.

The **H & A Woodmaster** and **H & A 6" Jointer** are also available for immediate delivery. Write today for complete information on these H & A Quality Woodworking Tools. All are sold on a Money Back Guarantee that assure your satisfaction.

**Heston & Anderson**

Founded in 1921

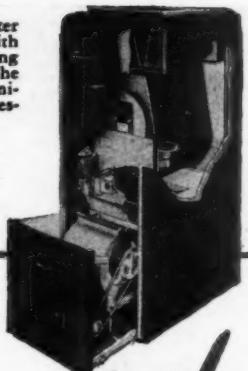
608 W. Kirkwood St., Fairfield, Iowa



DIVISION OF ST. PAUL FOUNDRY AND MFG. CO.

The new Mueller Climatrol Type 209 Winter Air Conditioner is a compact vertical unit with the blower assembly mounted in a ball-bearing Roll-a-Drawer below the heat exchanger. The heat exchanger is streamlined to provide uniform distribution of air, minimum static pressure, and high rate of heat transfer.

**NEW**



## Mueller Climatrol Type 209 Oil-Fired Winter Air Conditioner

**gives your clients unique features  
for extra convenience and economy**

You can mark up another "first" for Mueller Climatrol: The Roll-a-Drawer — a service unit (patent applied for) which mounts the entire blower, motor, and drive assembly on ball-bearing rollers, so that it is completely accessible for adjustment and servicing, with a flick of the wrist.

The all-welded heavy steel heat exchanger is thermodynamically designed, has no internal baffles to cause strains or noises, is electric-arc welded throughout, with all passageways easily cleanable from the front access panel.

The Type 209 Mueller Climatrol is available in three sizes, with vaporizing or pressure atomiz-

ing oil burner, and is shipped from the factory in a completely assembled package. Compact in size, it easily goes through any normal closet door. Filters may be installed in the bottom, either side, or the rear of the handsome, green cabinet.

The Type 209 Mueller Climatrol sells itself to your clients and keeps them sold, by delivering the true indoor comfort of "climate control."

It really pays to recommend the Type 209 . . . it delivers the indoor comfort your clients want in their new homes! Write for complete information. *L. J. Mueller Furnace Company, 2016 West Oklahoma Avenue, Milwaukee 7, Wisconsin.*

**M U E L L E R**  
*Climatrol*

REG. U. S. PAT. OFF.



FOR GAS



FOR OIL



FOR COAL



## want a real estate loan fitted to YOUR needs?

**ANSWER:** Consult Prudential.

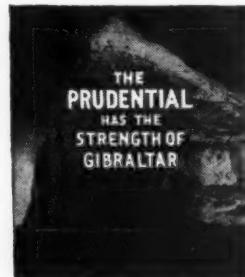
For Prudential offers a *complete* financing service: conventional, F. H. A., construction, G. I., individual building sites, subdivisions, residential, suburban, apartment, industrial, mercantile.

And Prudential makes every size of loan—from the smallest to the largest type of building project.

Prudential *convenience*, too, is something for you to consider.

There are Prudential Mortgage Loan branch offices in principal cities, representatives in most principal towns. They understand and are sympathetic to local conditions and problems. They can give you "on the ground" financing—swift, efficient closings, no red tape.

Get in touch with your nearest Prudential branch office or representative. Or write to the Mortgage Loan Department C, The Prudential Insurance Company of America, Newark 1, N. J.



**America's Foremost Home Lender**

**PRUDENTIAL**  
HOME OFFICE: NEWARK 1, N. J.

## Specify the screening that's easiest to handle

### 8 Big Advantages

- Permanent — can't rust
- No upkeep — never needs painting
- No bleed — cannot stain house
- Easier installation — handles like cloth, cuts with scissors
- Safer installation — no jagged edges
- Greater impact strength — takes abuse
- Lightweight — one-fifth the weight of metal
- Tinted — to blend with any color scheme



**Firestone** *Velon*\*

TINTED SCREENING

*Velon* is a welcome revelation to anyone who has to handle screening. It works like cloth, cuts quickly with an ordinary scissors, can be installed easily at great saving in time and temper. When working with *Velon* there's no hazard of jagged edges . . . anyone can handle it with ease. These are only two of *Velon*'s many advantages—yet it costs less than good metal screening. Available in all standard widths. Write now for free full-color booklet on *Velon* to Firestone, Akron, O.





**M**ORE light . . . more styling . . . more distinction—that's the new Lawson "60" Line of Light Fixtures. Four tubular shades—held in beautiful chromium-plated brackets—insure glareless, perfectly balanced illumination. And Lawson provides this new, de-luxe styling at moderate prices. Write for catalog today!

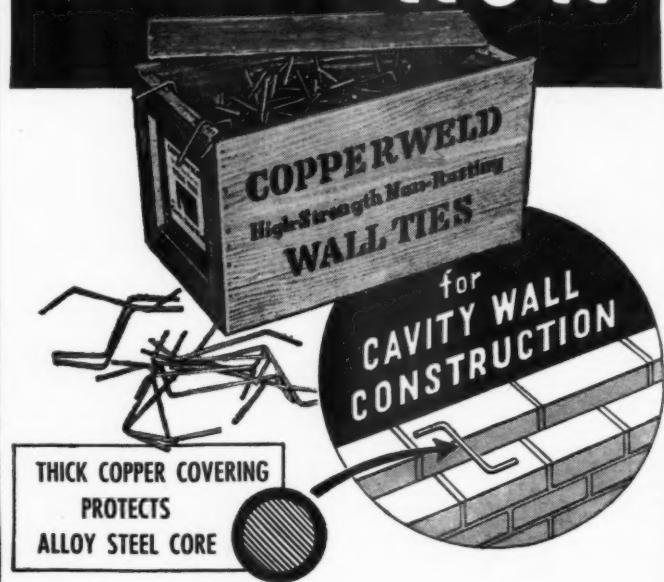
**World's Largest  
Builder of  
Bathroom Cabinets**

**THE F. H. LAWSON CO.**

801 EVANS STREET . . . Cincinnati 4, Ohio



# AVAILABLE NOW



You can safely order Copperweld Wall Ties for cavity wall construction without any fear of delay in delivery. Our increased production now makes them available promptly.

The permanence of any cavity wall is definitely assured when Copperweld Wall Ties are used. Made by our exclusive Molten-Welding Process, these ties have a thick, protective covering of pure copper permanently welded to an inner core of alloy steel. This provides a wall tie with the strength of steel and the long life of non-corroding copper—a tie that can be depended upon to function as a permanent bond throughout the life of the wall.

Made in two sizes—6" and 8"—and packed 500 of one size to a box. Descriptive literature sent on request.

Sold Through  
Building Supply  
Dealers  
Everywhere



# IF YOU BUILD MORE THAN 6 HOUSES-ATLAS SPEED FORMS and Poured Concrete Save You

## HALF THE FORM COSTS AND HALF THE LABOR COSTS ON FOUNDATIONS

Atlas Speed Forms, used by large and small contractors and builders all over the country, have proved, in every case, that foundation costs drop. Form costs as low as 1 cent per sq. ft. of contact surface. Form labor costs cut in half, and a foundation a day becomes easy with Atlas Speed Forms.

*Write for full details  
on your own specific problem.  
No obligation, of course.*

RENTAL FEE CAN BE APPLIED  
TO PURCHASE, IF YOU DESIRE.

**IRVINGTON  
FORM & TANK  
CORPORATION**

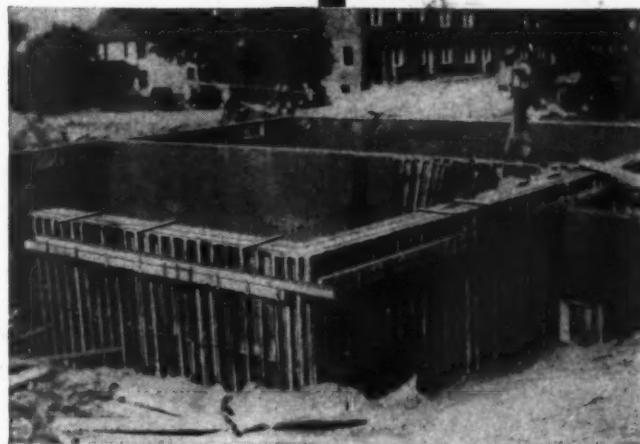
IRVINGTON 50, NEW YORK



SO LIGHT  
A CHILD CAN  
LIFT THEM



Forms being set up for pouring.  
Quick and easy with Atlas.



Stripping the forms. Note clean,  
smooth surface.

A.B.10/47

Irvington Form and Tank Corp.  
Irvington, 50, N. Y.

Please send me information on Atlas forms. I am particularly interested in forms for

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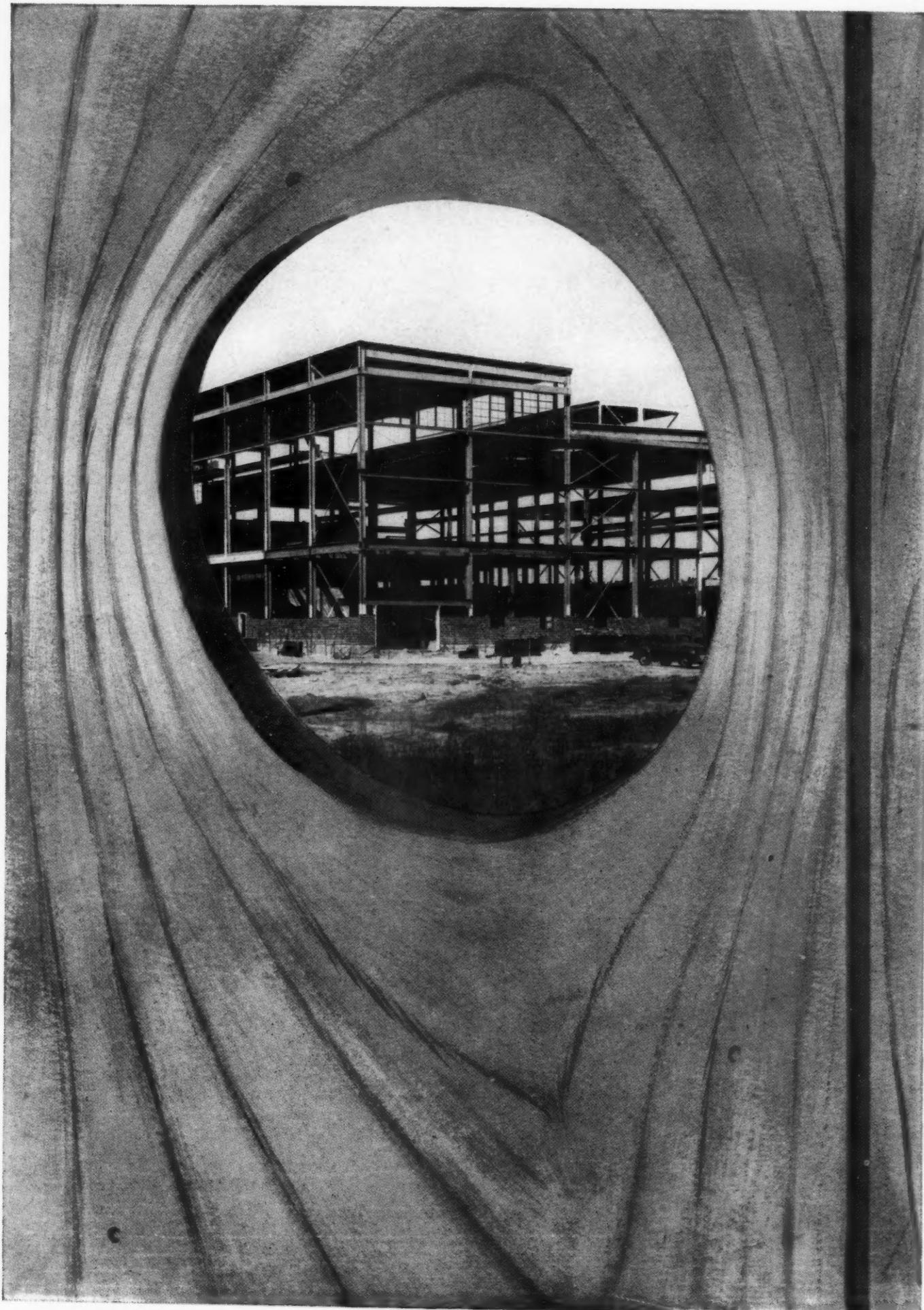
.....

NAME .....

FIRM .....

ADDRESS .....

.....



## Take a peek at the new Temlok

If you could go to Macon, Georgia, right now for a quick look at Armstrong's new Temlok® plant under construction, you would see a maze of steel, brick, wood, and machinery being put together by a lot of very busy men. One glance would tell you it's a big plant with big capacity. The mill building, which is 1200 feet long, will contain a great variety of specially designed equipment, including a 500 foot long drier. This modern plant will turn thousands of cords of wood into Temlok insulation board every month.

But you couldn't tell much about Temlok by looking at the factory through a knothole. Development of the new Temlok started in Armstrong's Research Laboratories in Lancaster, Pennsylvania. There, scientists have been testing samples made on pilot-plant equipment—and with results far better than their brightest hopes. Early in 1948 we expect to show you some samples of the new Temlok actually produced in the Macon plant and some test figures, too. Even if these figures are only half as good as preliminary tests indicate, the new Temlok will probably be the finest line of fiberboard materials you've ever seen.

## ARMSTRONG CORK COMPANY LUMBER DEALER PRODUCTS DEPARTMENT

1610 Ross Street

Lancaster, Pennsylvania



# Door Hanging Problems?

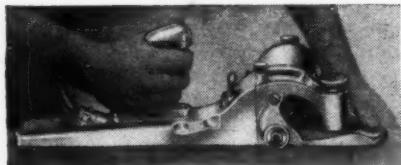
. . . Not when you use  
**STANLEY-CARTER EQUIPMENT!**

DOOR HANGING ceases to be a problem when you equip yourself with Stanley-Carter Electric Tools. You can hang doors in a fraction of the time necessary with hand tools . . . and do the work better and more accurately.

For fitting, the powerful, 18,000 R.P.M. Carter J-5 Plane gives you smooth edges and bevels. Cuts equally well with or against the grain.

For hinges and lock faceplates, a Carter Hinge Butt Router with T3 and T1 templets makes perfect mortises every time in a matter of seconds. The Carter Lock Mortiser—lightest one on the market—cuts clean lock mortises in 30 seconds per mortise.

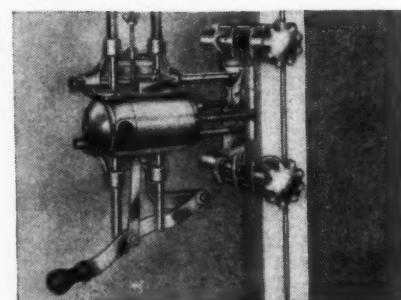
Write for full information on these proven time savers. Stanley Electric Tools, Stanley-Carter Sales Department, 534 Myrtle Street, New Britain, Connecticut.



Carter J-5 Power Plane. Fully adjustable for straight or bevel cuts up to 45°. Cuts paper thin or up to 3/16". Mounted in bench bracket it becomes a high speed joiner.



Hinge Butt Router HB4A. With door and jamb templet this 3/8 H.P., 18,000 R.P.M. router can mortise 75 doors and jambs a day, accurately. No shimming or recutting. Also used with lock face templet.



Lock Mortiser. Simple, self-centering adjustments quickly adapt for all doors and locks. Height rod permits succeeding doors to be mortised without further adjustment.

# STANLEY

Trade Mark

**HARDWARE · HAND TOOLS · ELECTRIC TOOLS**

*Custom-Built Beauty*  
AT VOLUME-BUILT PRICES



*Guiberson*  
**STEEL KITCHEN CABINETS**  
with lifetime Formica Tops!

**5 BASIC  
GUILBISON  
CABINETS**



Three-Drawer  
FLOOR CABINET  
Model KU-18



Utility  
FLOOR CABINET  
Model KU-18

54" SINK  
CABINET  
Model KS-54



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WALL CABINET  
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Three-Shelf 18"  
WALL CABINET  
Models KW-18-L  
and KW-18-R

THE *Guiberson*  
CORPORATION  
P. O. Box 1106, Dallas, Texas

*Announcing*

**Preslok**  
TRADE MARK

The amazing **KEYLESS LOCK**  
with  
**push button control**

Here at last—a lock so radically different, so utterly new and simple—you'll wonder how you ever got along with old-fashioned key locks! No more fussing and fumbling for key or keyhole—PRESLOK is keyless. Four small buttons hold the secret of a PRESLOK combination—yet the nation's leading locksmiths have failed to open this lock.

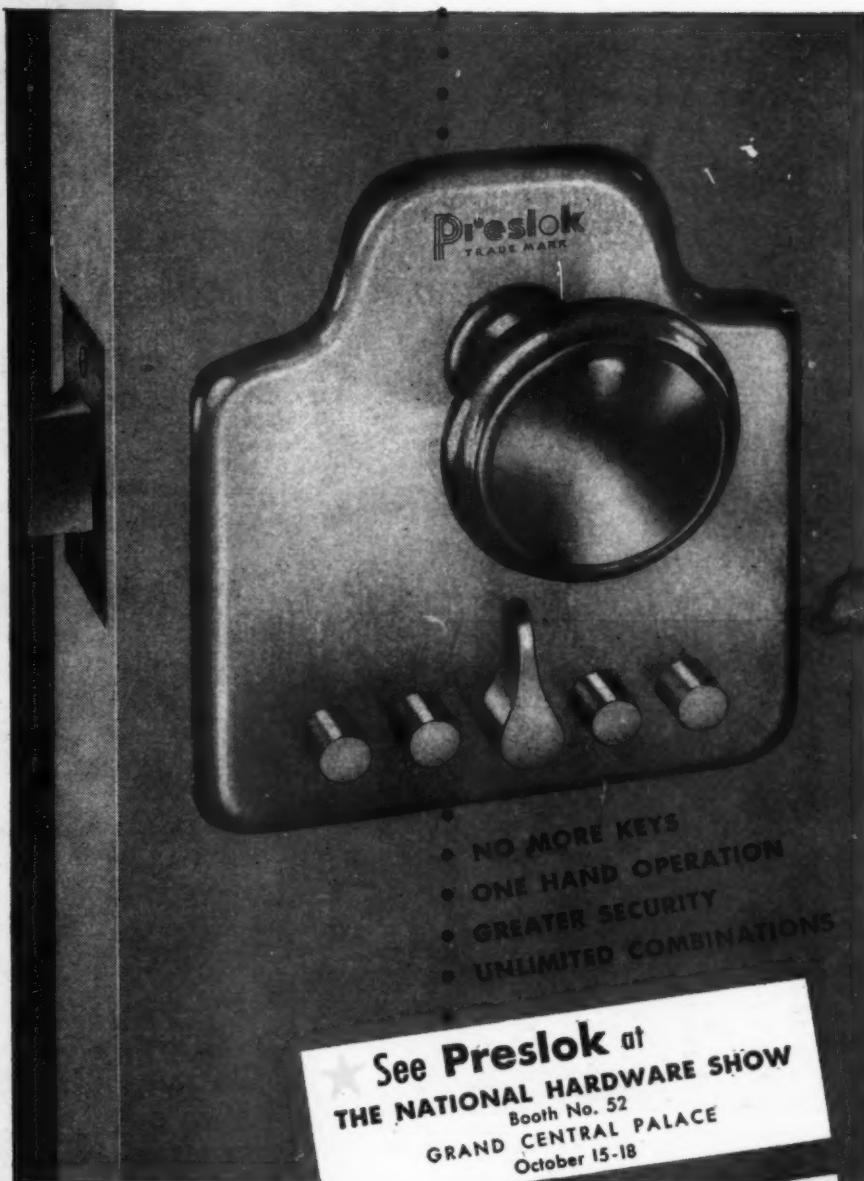
**SIMPLE • CONVENIENT • SECURE**

Flick a lever—PRESLOK locks. Tap out an easy combination—PRESLOK opens... and opens with one hand! PRESLOK is sturdily constructed for heavy duty—precision-built like a fine watch. PRESLOK is easily installed on most types of doors—old or new—adding strength to your door, as well as beauty, convenience, and greater security.

**MAIL THE COUPON ...**

For complete information and specifications of this new patented lock, mail the coupon today. Be sure that you have full details on PRESLOK—successor to the key lock.

**SECURITY LOCK CORPORATION**  
**WALDEN, N.Y.**



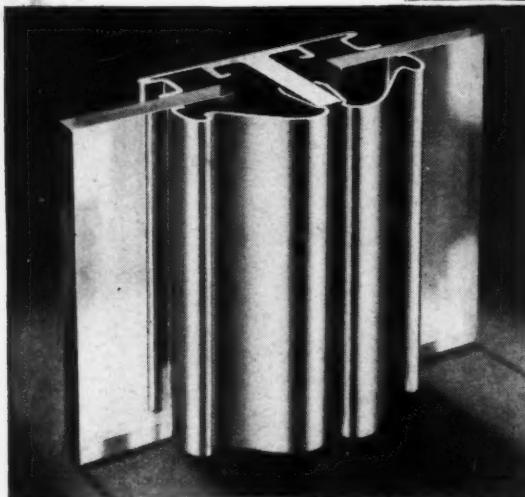
**MAIL COUPON TODAY**  
SECURITY LOCK CORPORATION, Dept. B-1, Walden, N.Y.

Please provide us with full information, specifications and price quotations on PRESLOK.

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_

# Whatever your building plans—there's a *P*

**ALL MERCHANTS** are interested in adding sales appeal to their stores and increasing their volume of business. A new store front of Pittsburgh Glass and Pittco Store Front Metal is an important step in that direction. And you can sell "Pittsburgh" . . . because consistent, sustained advertising has made "Pittsburgh" widely known as the leader in store modernization work. "Pittsburgh" offers a complete line of glass products and store front metal, and crews of experienced workers to handle their installation.



Pittco Premier Division Bar

**EXCEPTIONALLY EASY INSTALLATION** is characteristic of both lines of Pittco Store Front Metal. All setting operations are carried on from the outside, and the simplicity of the setting procedure often results in a considerable saving of time and money. Pittco De Luxe is extruded metal . . . that means sturdy strength, clear, sharp profiles, and a lustrous finish. It is the ideal choice for top quality installations. Pittco Premier is lighter in weight and more moderately priced than Pittco De Luxe. It features gracefully curving lines and a rich, smooth finish.



**PICTURE WINDOWS** add beauty . . . and sales appeal . . . to modern homes. They make dining and living rooms bright and cheerful, and draw attention to an attractive view. Pittsburgh Polished Plate Glass is the ideal choice for picture windows under ordinary circumstances. Where insulated windows are needed, Twindow, "Pittsburgh's" new window with built-in insulation, will assure complete satisfaction. With Twindow, heat losses are reduced, down-drafts near windows are minimized. And Twindow is set as easily as a single pane of glass.

# a Pittsburgh Glass to help you!



**EVERY NICKEL** spent for glass shows up in a way that can be readily seen and appreciated. That's why bathroom walls or wainscots of Carrara Structural Glass are in demand by so many modern homemakers. Carrara is easy to clean, lasts indefinitely, and is available in ten attractive colors to blend with any decorative scheme. Other popular uses for Carrara: splash panels around lavatories and stoves; fireplace surrounds; window sills.



**TO PRESERVE** privacy and prevent heat losses and, at the same time, admit plenty of natural light, install PC Glass Blocks. They can be used in stairwells, around the front door to dress up the entrance, over kitchen and basement work surfaces, as a shower enclosure, or for interior semi-partitions.

**EVERY HOME** needs at least one full-length door mirror. It's a convenience that pleases every member of the family. And there are many other types of "Pittsburgh" mirrors which can make your homes modern and glamorous . . . and help increase your profit. Structural mirrors in living, dining or bedrooms make these rooms brighter and larger. And "spruce up" mirrors in entrance hall and kitchen are always appreciated.

We will gladly send you free our special "Builders Kit" which includes illustrated literature showing how you can use glass effectively on all types of jobs in which you are interested.

\*Build it better with

# Pittsburgh Glass



"PITTSBURGH" stands for Quality Glass and Paint

PITTSBURGH PLATE GLASS COMPANY

Pittsburgh Plate Glass Company  
2520-7 Grant Building, Pittsburgh, Pa.  
Please send me without obligation your  
"Builders Kit" of illustrated literature.

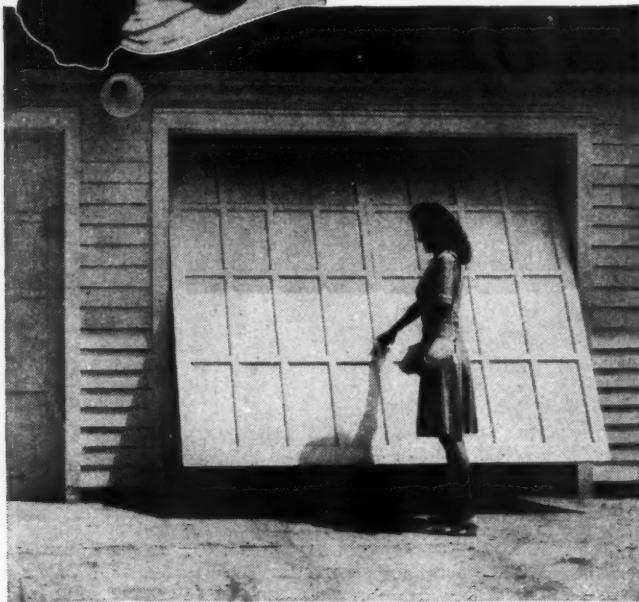
Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



**"The GARAGE  
is MY  
DEPARTMENT  
Too!"**



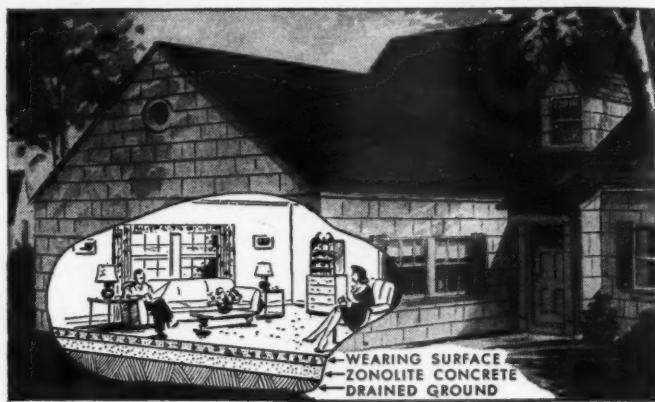
● Today the "lady of the house" either has a car of her own or makes frequent use of the family car. So, the kind of equipment on the garage doors is of concern to her. She doesn't want to struggle with sagging, wind-blown, swinging-type doors. Women like "Over-the-Top" Door Equipment. The reasons are obvious. To open an "Over-the-Top" equipped door, one merely turns the automobile-type handle and lets go . . . the power springs do the rest . . . the door rises up out of the way (out of the weather) in seconds! Closing is simple, too. The fact that "Over-the-Top" Equipment can be used on one-piece doors, or standard door sections bolted together, gives the architect, builder and client free rein in designing the garage and house as an integral unit. Speed in installation is assured by the simplicity of the equipment. Steel weather strip seals out cold and moisture. Only 2 $\frac{3}{4}$ " headroom are required for a 8' x 7' door. Write today for full details.

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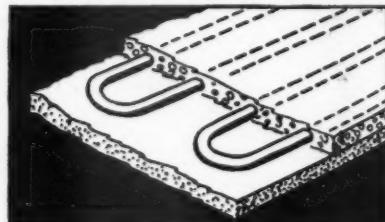
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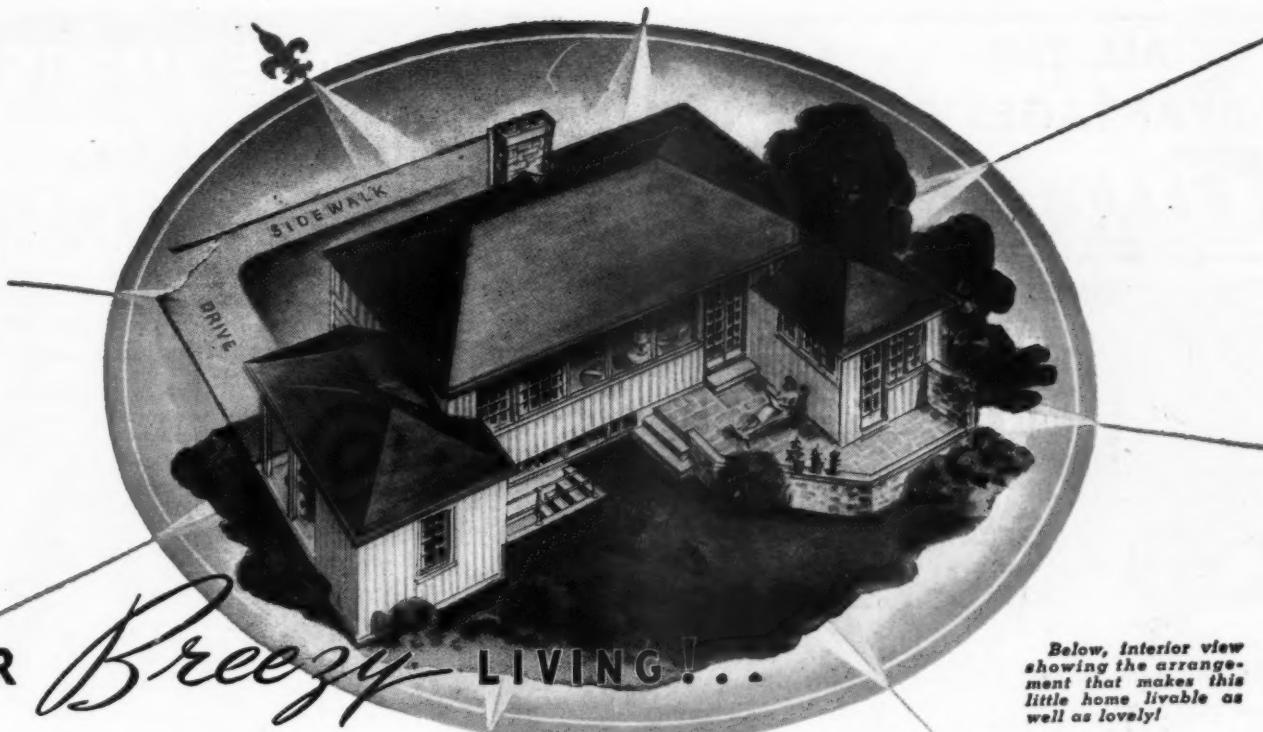
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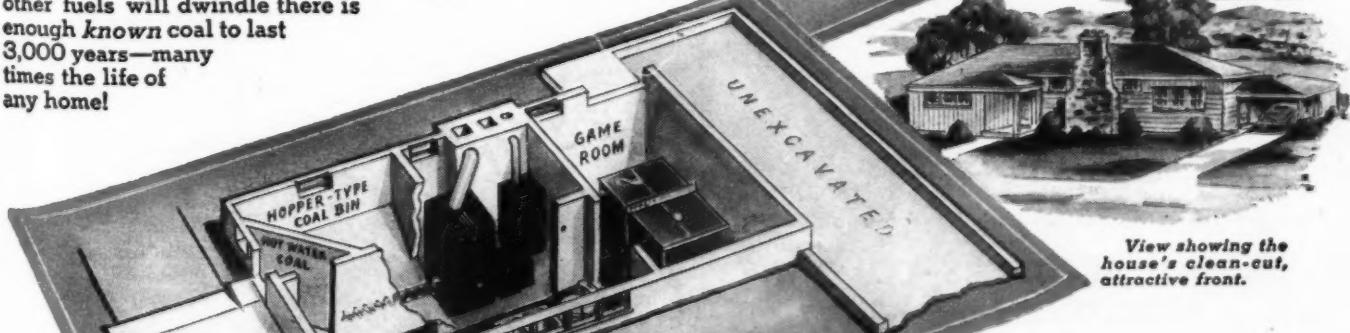
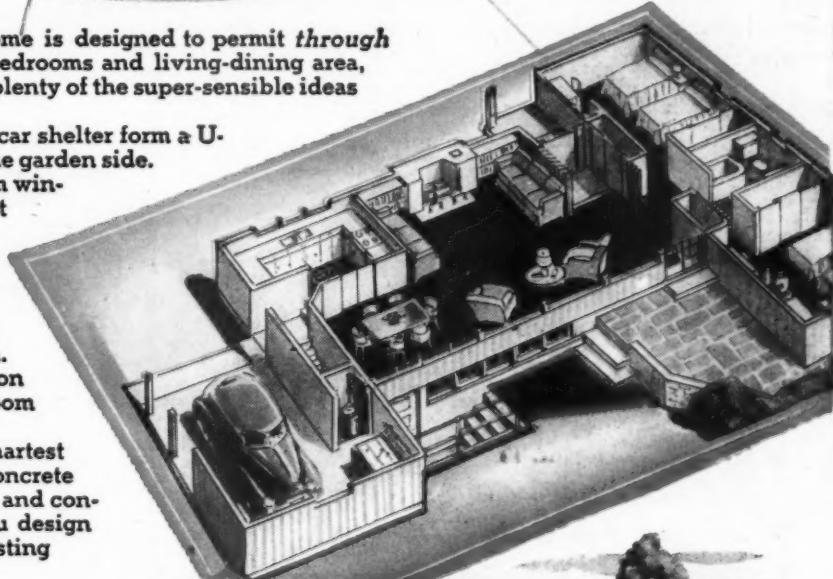
*Below, interior view showing the arrangement that makes this little home livable as well as lovely!*

This smart five-room, single-floor plan home is designed to permit through ventilation of all areas, to spill sunlight into bedrooms and living-dining area, and to afford maximum privacy — all this plus plenty of the super-sensible ideas required for modern, breezy living!

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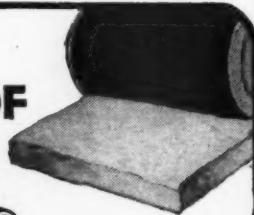


*View showing the house's clean-cut, attractive front.*

*Basement view, showing how coal bin, heating unit, game room and laundry facilities are arranged for modern efficiency. The convenient ash hoist lifts to car shelter level.*

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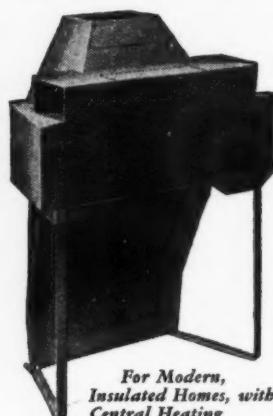
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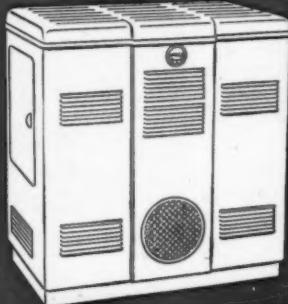
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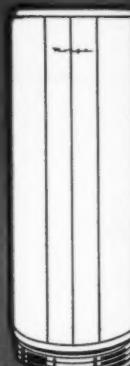
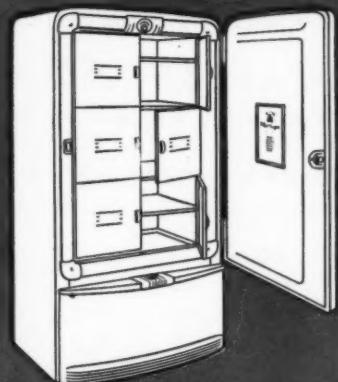
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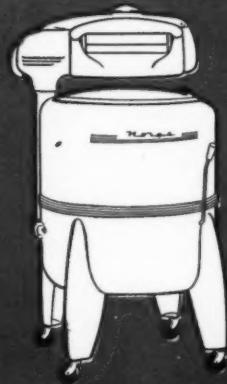
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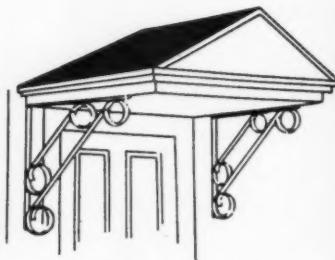
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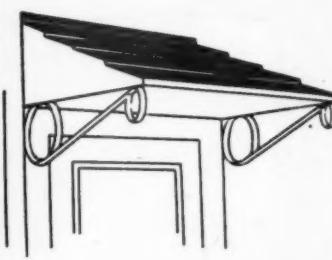
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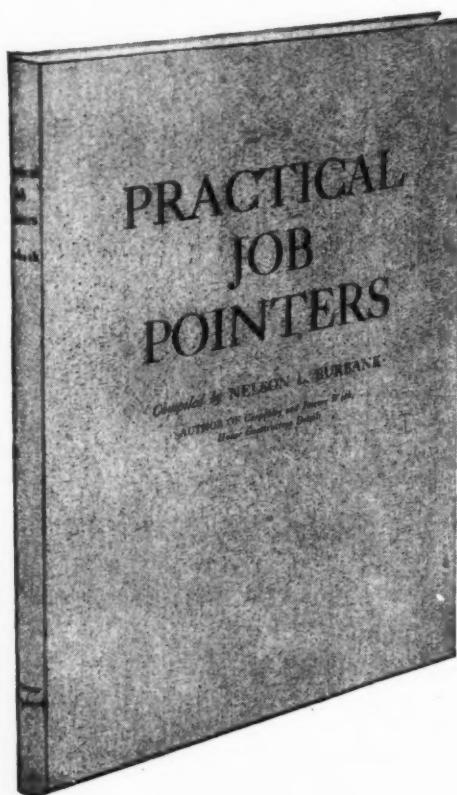
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BOOK DEPARTMENT

**AMERICAN BUILDER and BUILDING AGE**  
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IN TODAY'S HOMES —

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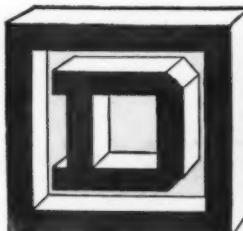
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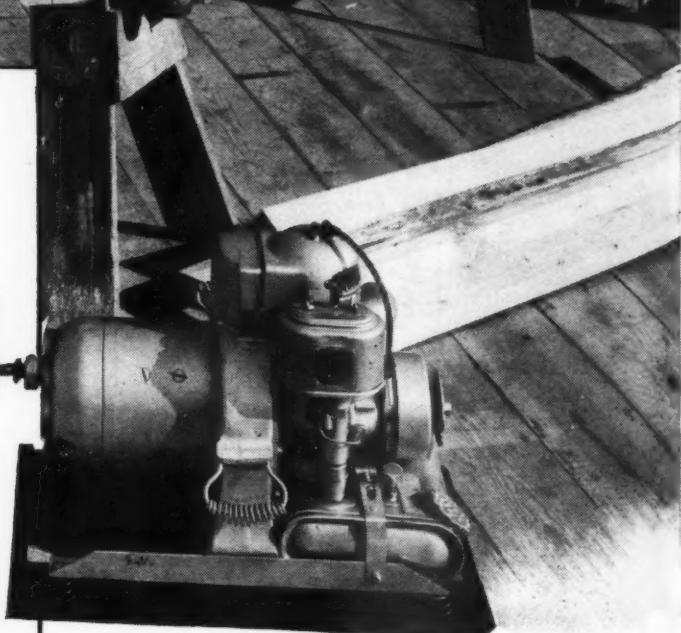
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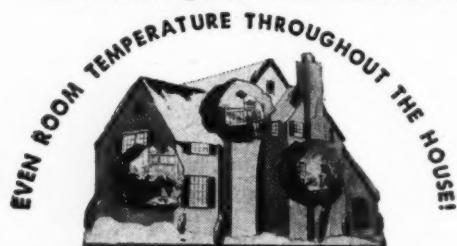
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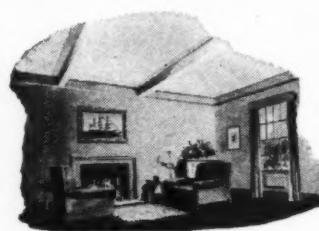
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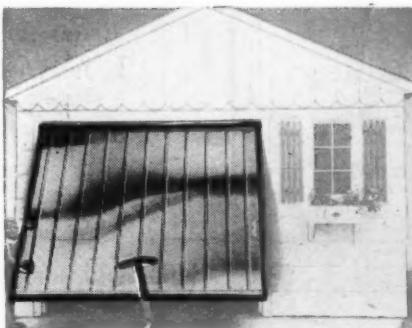
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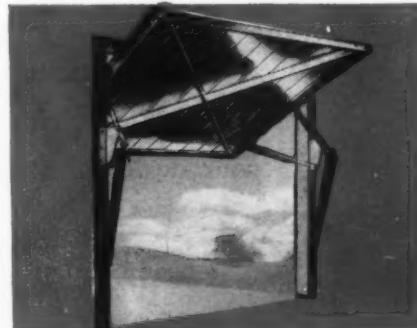
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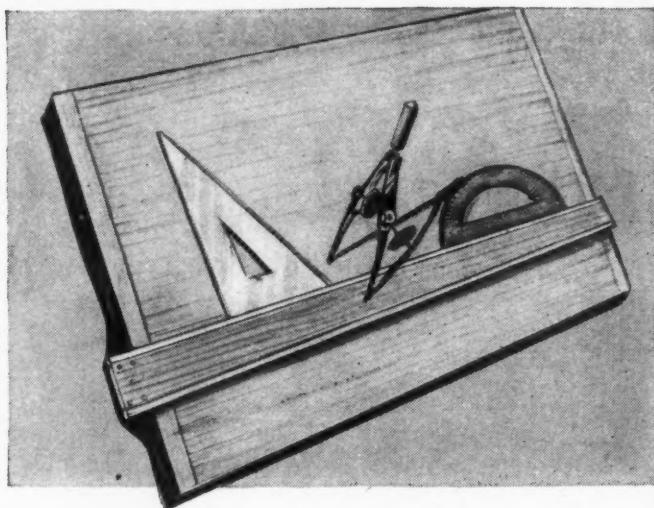
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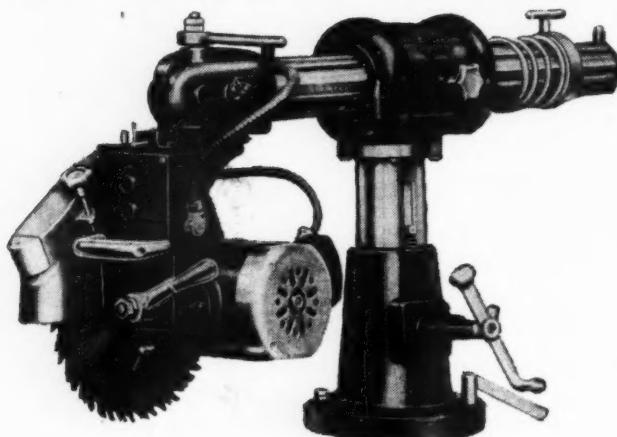
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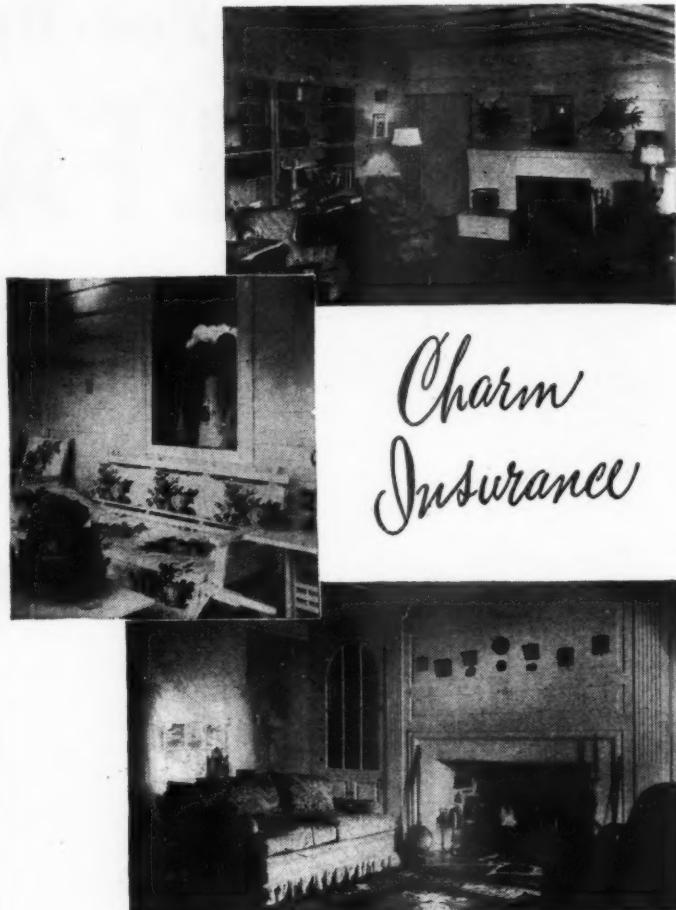


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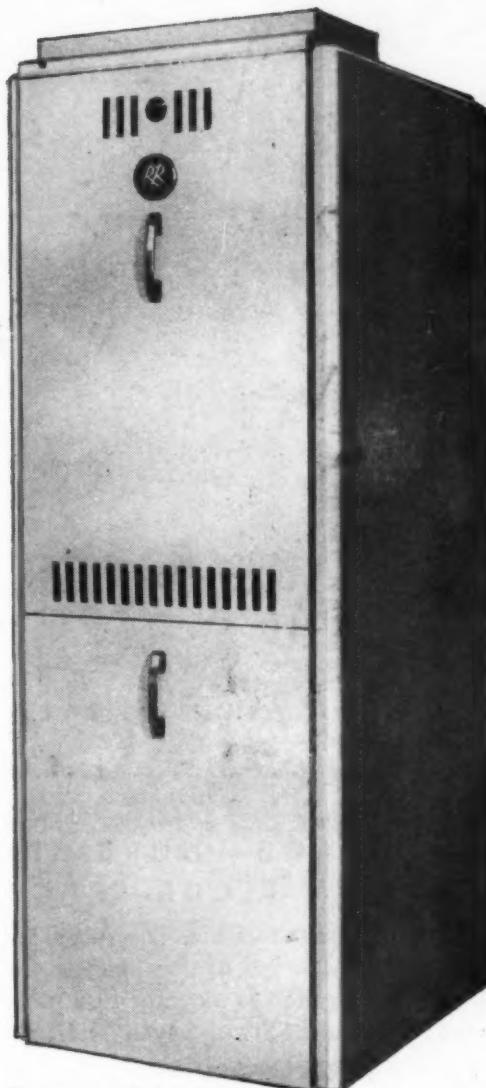
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# AMERICAN BUILDER

## EDITORIAL

### **United Front Needed**

BEHIND the apparent lack of activity during the summer months, left wing forces and the politically ambitious have been working ceaselessly to organize a new 1948 offensive against free private enterprise. The new offensive, like its predecessors, will be spearheaded against the home building industry. The new offensive, however, will be better organized, more intelligently pressed, and much more difficult to stop.

To begin with, it has a new weapon, an essential big gun in the form of Reorganization Plan No. 3. It was in part the need of this weapon as a preliminary for a public housing bill that determined Senator Taft not to permit S-866 to come to a vote during the 1947 session of Congress. Other factors in his decision were recognition of defects in the bill from his own personal viewpoint, his conviction that no housing bill could pass the House last spring, and political astuteness that told him that even if the bill were right and could be passed, the timing was wrong to enable him to reap maximum political benefits.

All that has changed. If S-866 has not been revised it will be. New pressures are being exerted on House members by the leaders of some labor unions, one or two veterans' organizations, and numerous organized minorities of do-gooders and the socialist minded. Mr. Taft, in the belief that he is now solid with the proponents of balanced economic forces via the Taft-Hartley bill, can feel that a public housing bill might placate labor leaders whom the labor legislation whittled down to size, and thus define a surer road to the White House. In any event, Mr. Taft has openly avowed his intention to press the passage of a new public housing bill.

Add to this the evident intention of the White House to embarrass segments of the home building industry through indictments and investigations presented to the public as measures to obtain reductions in prices. This in face of the fact that the greatest single cause of high prices is increased wage scales which the government encouraged labor to seek, with the false promise that higher wages need not be followed by higher prices.

The pattern is clear. Housing will be the football of the domestic issues in the political campaigns of 1948. With the issue and the opposition strategy defined, what is the building industry doing to save itself? It is true that production of building materials has attained a volume where the peak in the price spiral has been reached, and that prices can be expected to decline moderately before the end of the year; that builders are producing an unprecedented volume of new housing units; and that in some places buyers have been convinced that there is no advantage in waiting to buy.

It is also true, however, that the home building industry has been and still is a house divided, in which the major segments—manufacturers, realtors, financing groups, distributors and builders—appear to be more concerned with matters of selfish interest to themselves than in offering united resistance to the organized forces that threaten private building and free economy. If that united resistance is not forthcoming, 1948 will see the beginning of socialized housing on a grand scale, and the beginning of the end of private building along with its presently disunited major segments.

# Houses Best Buy For Today's Dollar

# Comparison of Values 1947-1941

**Today's houses offer the best value compared with other commodities**

IT was felt this spring that high costs would have an adverse effect on the building of new homes which are badly needed to meet the still serious housing shortage. Statistics on nationwide housing starts, however, show that the houses being built for today's market are finding a ready public acceptance. Food is high, the cost of new cars basically prewar models, incidentally, are high, shoes and clothing are high, and so are new homes, but the public is buying all of these items in record-breaking volume. Mortgage bankers find that the costs of new homes are not inconsistent with present day incomes, and are making available a record volume of mortgage money for home building.

The greatly simplified mortgage financing system of the present makes home ownership possible for many more people than the terms available fifteen years ago. Today's homes are built better than ever before. They have better equipment—they have more pleasing exteriors and surroundings—they are better planned—they have better arranged rooms—they are easier to maintain—they provide more light and air—they are in better planned neighborhoods with access to shopping and community centers.

The fundamental factors which have raised prices are: (1) The large amount of government debt outstanding which has increased the money supply (2) The high level of consumer demand and (3) the demands of labor and consequently of other elements of the economy for increased

income, unaccompanied in most cases by increased productivity. So long as demand continues, and there appears to be no slackening in the demand for major items such as housing and automobiles, prices are expected to stay at present levels. It will be remembered that prices of commodities increased at about the same rate following World War I, reaching a peak in 1920. A sharp break in that year left prices still substantially higher than pre-war.

We are now precisely at the point, two years after the end of the war comparable to the point where prices broke in 1920, and prices of most commodities are increasing slightly rather than decreasing. There is a great disparity, however, between conditions now and in 1920.

Manufacturers point out, and it is true of building too, that labor costs comprise from 90 per cent to 95 per cent of the cost of their products. Labor unions now dictate the wages and hours of a much greater segment of the economy than in 1920, and attempts to reduce wages in an effort to reduce prices would be futile. There is no slackening in the demand for farm products which might result in lower prices. These all add up to the fact that prices will remain high.

Comparing present prices of the cost of living items of the index compiled by the Bureau of Labor Statistics, prices at retail are now 50 per cent above the 1941 average. The peak prices of 1920 were only 43 per cent above that average. Income of

the individual wage earner in manufacturing on the average, is about \$49.50 a week. Average earnings in 1920 were \$22.30 weekly.

Food prices are now up 80 per cent over the 1941 average. In 1920 they were 85 per cent above the same average. The cost of clothing is 74 per cent above the 1941 average. The price level of home furnishings is 70 per cent more than in 1941. In 1941 a typical "low-priced" coupe sold for \$712, f.o.b. Detroit, and a two-door sedan cost \$754. Now the same make of coupe is priced at \$1,080, the sedan at \$1,135. Actually the ultimate customer pays much more, since the cars come through devious channels.

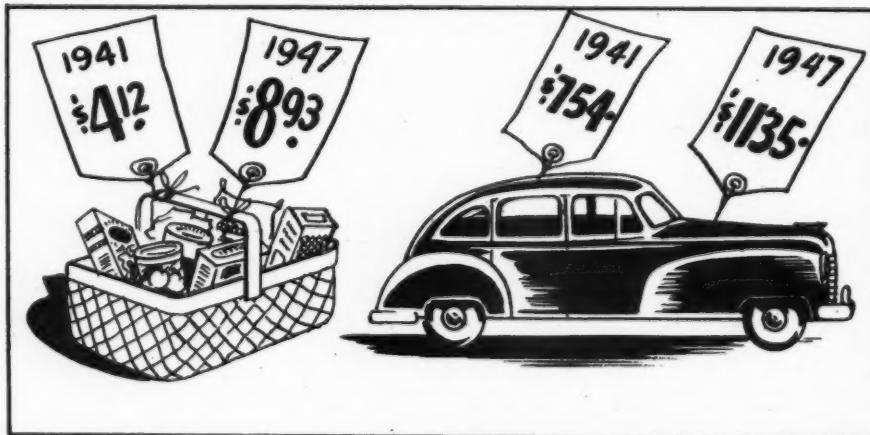
The only bargains now are: Gasoline, which sold for 34 cents a gallon in 1920 and now averages 22 cents a gallon; gas and electricity, which sell for less than in 1920, tires which are less than prewar prices; and rent, which, in March 1947, was 109 per cent of the 1935-39 level, while the consumer index was 156 per cent of 1935-39. The 15 per cent increase in rent will be reflected in later figures.

In spite of the fact that composite price of building materials stood at 177.5 in March 1947, as compared with 103.2 in 1941, due principally to the price of lumber, which was 269.3 in March 1947, as compared with 122.5 in 1941, builders are delivering good values in homes.

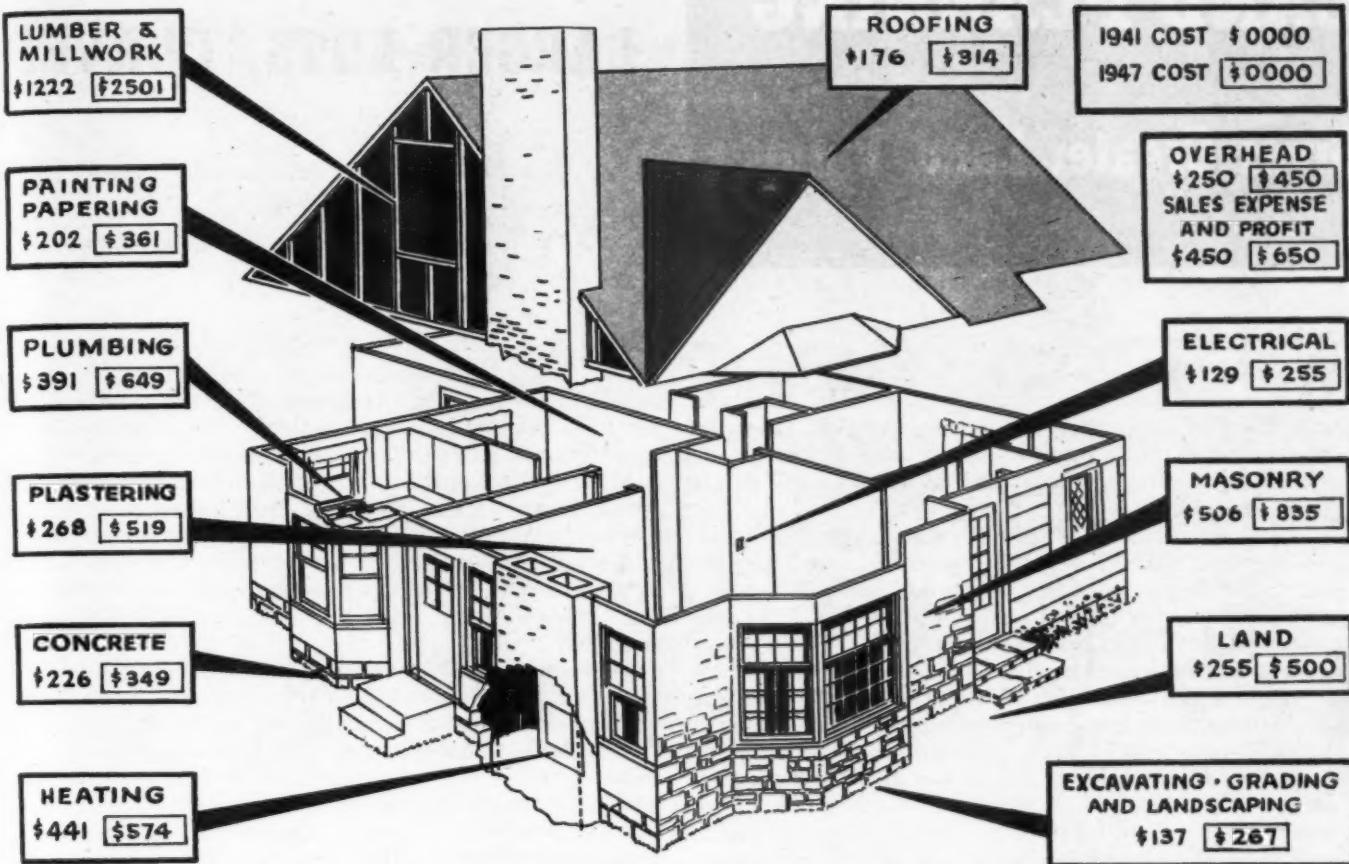
The modern home is as attractive and convenient as any other product being turned out today. It represents the achievements of a great era of invention, from plumbing to electricity, and including automatic heating. Its parts and equipment are mass produced in factories. Maintenance is simple and relatively inexpensive.

In comparison with the low yield of high-grade bonds and stocks, and practically negligible returns on savings bank deposits, together with the uncertainty of returns from investments, home ownership at present should be the first consideration of those who have money to invest.

A price collapse of all values subsequent to 1929 brought prices of bonds, stocks, and commodities including residential and commercial properties down to unforeseen levels. Prices of stocks have not regained



COMPARISON of cost of market basket of groceries and automobile in 1947-1941.



MAJOR COST items of house built in 1947 for \$10,778 compares with total cost of \$6,040 in 1941

their 1929 levels, first-class bonds which brought 5 per cent interest in 1929 now pay 2½ per cent. Some investments have been entirely wiped out—but the small home built in 1929 is likely to be selling on today's market at 50 per cent to 75 per cent or more than its original price and in the meantime has yielded substantial dividends to its occupants.

Since statistics are available on residential occupancy it is believed that they will be more closely watched and a recurrence of building in excess of demand such as occurred from 1925-1928 will be avoided. The large number of vacancies is responsible to a great extent for the decline in values which occurred from 1929 to 1932. Today's home buyer will thus be protected from a collapse of values such as occurred then.

In view of the increased price level, prospective home owners are expecting to pay more for a house than in 1944. Just how much more is revealed in a survey conducted by *Small Homes Guide*, which shows that 40 per cent of families who now plan to build are prepared to pay \$10,000 or over. Three years ago only four per cent would go that high. The average of all home building budgets has jumped from \$5,110 in February 1944 to \$9,269 in July 1947. The price bracket most quoted is now \$8,000 instead of \$6,000, as in early 1944.

#### 1947-1941 COMPARISON OF COSTS OF VARIOUS COMMODITIES

(Data from Bureau of Labor Statistics)

##### Index of Wholesale Prices By Groups of Commodities

March	1947	1941	Increase	Percent Increase
Farm products	182.6	82.4	100.2	122%
Foods	167.6	82.7	84.9	106
Hides & leather products	174.6	108.3	66.3	61
Textile products	139.6	84.8	54.8	64
Fuel & lighting materials	100.8	76.2	24.6	32
Metals & metal products	140.6	99.4	41.2	42
Building materials	177.5	103.2	74.3	72
Chemicals & allied products	132.2	84.4	47.8	56
Housefurnishings	125.8	94.3	31.5	34
Miscellaneous	115.3	82.0	33.3	40

All commodities	149.6	87.3	62.3	70%
<i>Consumers Price Index For Moderate Income Families in Large Cities</i>				
1935-39 = 100				
Food	189.5	105.5	84.0	80%
Clothing	184.3	106.3	78.0	74
Rent	109.0	106.2	2.8	2
Fuel, electricity & telephone	117.6	102.2	15.4	15
Housefurnishings	182.3	107.3	75.0	70
Miscellaneous	138.2	104.0	34.2	33

All items	156.3	105.2	51.1	50%
<i>Retail Food Prices Aug. 1947</i>				
Round steak (lb.)	.78	.39	.39	100%
Pork chops (lb.)	.74	.34	.40	118
Leg of lamb (lb.)	.66	.30	.36	120
Ham, whole (lb.)	.67	.30	.37	123
Eggs (doz.)	.63	.40	.23	57
Sugar (lb.)	.10	.06	.04	66
Butter (lb.)	.71	.41	.30	73
Bread (lb.)	.13	.08	.05	62
Milk (qt.)	.19	.14	.05	35
Potatoes (15 lb.)	.88	.36	.52	69
Coffee (lb.)	.46	.24	.22	91
Flour (lb.)	.50	.22	.28	127
Cheese (lb.)	.55	.30	.25	83
Oranges (doz.)	.43	.31	.12	39
Lard (lb.)	.27	.13	.14	107

# LAND PLANNING

## Gives Greater Land Value

## LARGER LOTS, CURVED

WELL-PLANNED, protected, and properly improved residential neighborhoods have long been recognized as factors essential to the successful marketing of properties in all price ranges. One reason for this is the recognition on the part of purchasers of these properties of the greater stability of real estate values in such areas.

The development of slums, blighted residential areas; and the depreciation of property values are generally due to the failure to apply the fundamental principles used in planning high-priced neighborhoods to areas composed of houses of moderate cost. The present demand and increased need for houses of moderate cost emphasizes the need for adequate planning of these neighborhoods to avoid rapid deterioration of property values, building of future slums, and preventable financial losses to builders, developers and home owners.

Successful subdivision planning involves far more than the mere drawing of street and lot lines on paper. It includes the planning of neighborhoods in a broader sense which begins with the selection of the raw land, the economical planning of streets, lots, utilities, the control of house design, and the use of a sound marketing program.

Every residential subdivision development is begun with the anticipation that it will be successful. Unfortunately, far too many prove otherwise. Many which may have a promising beginning sooner or later fail or decline into blighted neighborhoods with attendant loss to the community, the developer, the home purchasers and investors. The causes of subdivision failures fall into clearly defined classifications. When a subdivision is not successful, one or more of the fol-

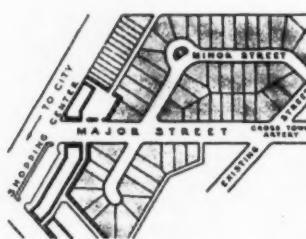
lowing causes will almost always be found to be present.

*Premature and unwarranted subdivisions* are to be found in the outskirts of practically every metropolitan area. They are conceived in the hope of profiting through the sale of land by high-pressure lot-selling schemes. Lot purchasers, lured by the prospect of quick resale of the land at a profit, purchase the lots without ever intending to erect a house. As a result thousands of vacant lots are bought, the quick profit is not realized, the lots become covered with weeds and burdened with unpaid taxes, and any walks or roads installed disintegrate.

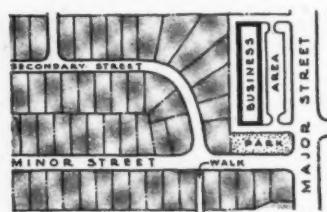
A recent survey of undeveloped subdivisions in metropolitan areas indicated clearly that one of the major reasons for financial difficulties of many cities was the tremendous sums spent by these communities in the installation of roads and utilities in premature subdivisions from which there were little or no tax returns.

*Failure to properly analyze the market* results in property being offered to the public in a price range or of a type for which there is no active demand. The market for residential property has been known to change rapidly, particularly in the upper price ranges. Unless builders or developers make a careful estimate of the rate with which houses in the contemplated price range are selling and the number under construction by their competitors, the result may be a financial loss and a stagnant development.

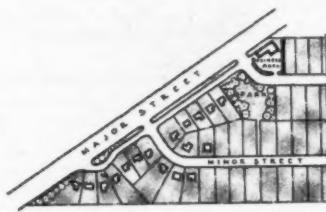
*Improper location of a subdivision* commonly results from an attempt to find use for vacant land instead of selecting land with a definite residential purpose in mind. Poor location is a general cause for the failure of many moderate-cost developments. Developers too



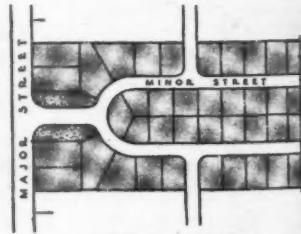
PLAN FOR EXTENSION OF MAJOR STREETS



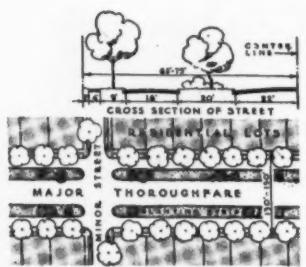
PLAN COMMERCIAL SITES WHERE NEEDED



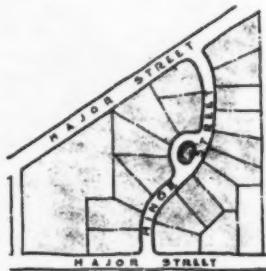
AVOID SHARP-ANGLED LOTS



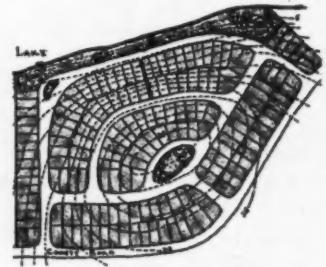
MAKE LOT LINES PERPENDICULAR TO THE STREET



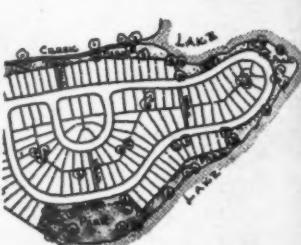
PROTECT RESIDENTIAL LOTS AGAINST MAJOR STREET TRAFFIC



MINOR STREETS SHOULD ENTER MAJOR STREETS AT RIGHT ANGLES



STREETS SHOULD FIT CONTOURS OF IRREGULAR LAND



PRESERVE NATURAL FEATURES FOR IMPROVED APPEARANCE

THE charts above and at top of the opposite page show some typical subdivision layouts with appropriate comments.

# STREETS Make Building Sites More Desirable

**Sound principles of planning ensure economy and long-time protection against evils of neighborhood blight**

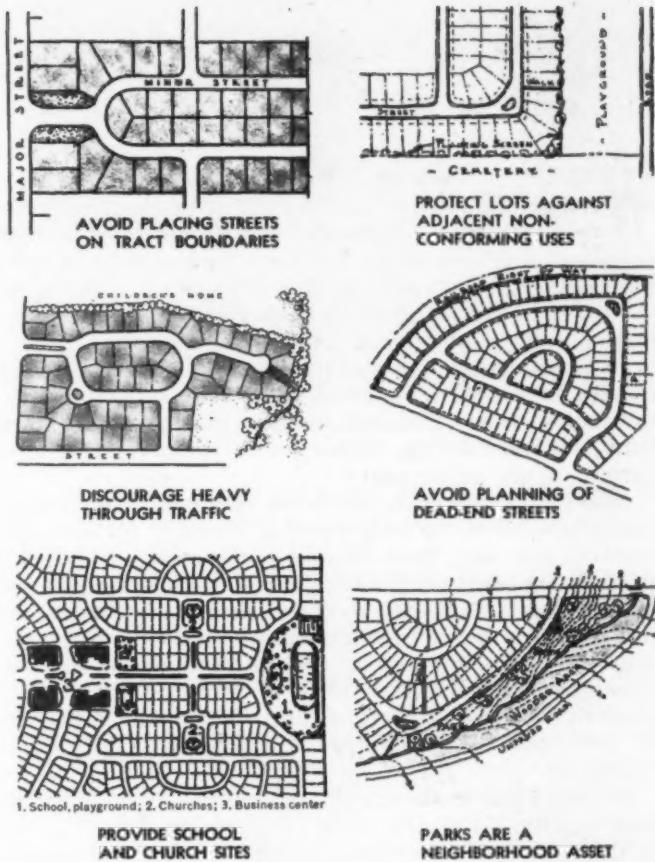
often believe that because land is cheap it is suitable for subdivision and use for moderate-priced houses without consideration of its location. It is imperative for families in the lower-income groups to live near inexpensive and convenient transportation. Schools, stores, and recreation areas must be conveniently located within reasonable walking distance. For higher-priced properties the beauty of natural surroundings and plan of the development will matter little in the eyes of the buyer if the location of the property is on the wrong side of the city.

*Lack of adequate street improvements* and utilities result in conditions which are undesirable to prospective home purchasers. Poorly paved or surfaced streets or those of improper width become muddy back roads and create impassable conditions distasteful to buyers. The lack of proper drainage is frequently evident in washed-out areas, choked sewage disposal systems and water-filled cellars. An ample supply of pure water and an inoffensive and sanitary method of sewage disposal are minimum requisites, yet attempts have been made to market hundreds of subdivisions without them.

*Poor subdivision design* due to ill considered and improperly studied layout, while one of the least recognized, is one of the most common causes of land development failures. That good planning pays can be easily demonstrated by comparison of grading and improvement costs and the number of quality lots in a poorly designed subdivision with those of a well-designed neighborhood development. In a poorly designed subdivision, topography and appealing natural features are disregarded; rolling hills are leveled off and the valleys filled in; and the developer fights with nature rather than working with her. Many lots in these subdivisions are left facing noisy traffic and uncontrolled land and unsightly views, and there are unnecessary and expensive cross streets as well as building lots of poor shape. These are but a few of the errors in design that are constantly seen; errors that could easily be avoided in the beginning by good planning which would provide a more easily salable product of more enduring long-time value.

In view of the better salability of the property, greater economy in the construction of streets and utilities, and the larger number of quality building lots obtained, the services of an experienced subdivision designer or land planner are a distinct advantage. Rather than adding to the cost of the development, these services pay for themselves in the success of the subdivision.

*Lack of suitable protective covenants* controlling the use of the land, prohibition of nuisances, regulation as to lot sizes and location of buildings, restrictions against temporary buildings, and similar considerations, is one major cause of neighborhood blight. No wise buyer will invest his savings in a home if he knows that there is the prospect of property across the street becoming a junk yard or that a tar-paper-covered shack may be built next to his property. Protective covenants, rigorously enforced, are an absolute necessity if good neighborhoods and stable property values are to be kept.



*Lack of community planning and zoning* retards otherwise successfully planned subdivisions. Few new residential areas are self-sufficient. Effective planning and zoning are necessary to the several neighborhoods which make up a community to assure their continuing desirability and success. Every subdivider can visualize how he would like to see the land about his tract develop. But without a master plan accomplished by zoning which can be legally enforced there is no assurance of how adjacent and neighboring land may be used and how it may increase or depreciate the value of his holdings or that of his purchasers.



THIS air view illustrates good land use by a small developer.

# Today—Volume Financing

88

American Builder, October 1947.

# Home Building

WHEN the Federal Housing Administration was created in 1934 it was the intent of the Congress that it should encourage improvement in housing standards and conditions and provide a system of mutual mortgage insurance as an aid to home buyers and mortgage lenders while stimulating a then almost prostrate building industry, laid low by depression.

Its primary function was to insure mortgage loans on residential properties made by private lending institutions, and insure financial institutions against loss on loans for remodeling, repairs, and improvements for various types of property.

Since 1941, however, FHA has operated under emergency provisions to help provide housing for defense workers and war workers and for veterans of World War II. In addition it has administered certain phases of housing programs, recently such as issuance of priorities for building materials and permits for residential construction, acting for the Civilian Production Administration and the Office of Housing Expediter, prior to the modifications of the Housing and Rent Act of 1947, passed during the closing days of the 80th Congress.

Of particular interest to home builders at the present time is Title VI of the National Housing Act. Passed in 1941, it has been amended several times and extended to March 31, 1948. It created a War Housing Insurance Fund and provided for insurance of mortgages on housing for defense and war workers. By amendment it now covers mortgages on housing for veterans of World War II as well as non-veteran home buyers.

Under the revised section 603 provisions have now been made for the insurance of mortgage loans on new one to four-family homes, for both rental and sale, up

to 90 per cent of the estimated *necessary current cost* of the property, including land, in contrast to the long-term economically sound valuation required under section 203. This program makes possible three attractive features, limited only by the supply of materials and labor: (a) adequate financing to the operative builder for volume building; (b) long-term financing with low monthly payments for the purchaser and at attractive interest; (c) FHA-insured loans to lending institutions in the form of firm commitments at inception.

In many sections of the country builders have been hesitant to pioneer into the volume building field because they are not familiar with the organized procedure now in use by lending institutions who have been attracted to Title VI financing to increase their loan portfolios and advancing community development.

Ordinarily, when an operative builder contemplates the development of a project for the construction of homes on unsubdivided property, the following steps are first taken in connection with application to the lender for credit:

- a. A plat map approved by local authorities of government and local FHA office showing all lots, sizes thereof, streets, addresses, plan numbers, set-backs and side yards is submitted in triplicate;
- b. Plans and specifications showing basic floor plans and various elevations are submitted in triplicate;
- c. Report in triplicate showing breakdown of all construction costs of each basic floor plan. This includes all costs estimated to complete the entire project;
- d. A copy of proposed deed conditions and restrictions;
- e. If a new builder, a letter giving outline of previous building experience and references;



UNDER revised section 603, Title VI, it is possible to insure 90 per cent mortgage loans on new one to four-family homes.

# Made Easier

**Operative building in volume made possible by amendments to National Housing Act enabling FHA to insure 90 per cent loans, based on necessary current costs, to builders where maximum mortgage does not exceed \$8,100 for single-family dwelling**



PROPER financing procedure results in good developments.

f. Names of proposed subcontractors and dollar amount of each subcontract;

g. Financial statement of builder and supporting schedules of items shown which are not self-explanatory.

The following example presumes that the applicant builder contemplates the construction of 25 single-family dwellings on six acres of unsubdivided land, upon which he has an option to purchase at a cost of \$5,000; improvement cost of subdivision work is estimated at \$12,500, making a total of \$17,500.

Of this amount, the builder has \$10,000 in cash to be used in the venture. He receives from the lending institution, subsequent to its approval, firm commitments under Title VI, at an average amount of \$8,000 per house, representing 90 per cent of the recognized replacement cost of \$8,900. (Under section 603 maximum amount of mortgage insurance permitted for each type of dwelling is limited by law, namely, \$8,100 for a one-family; \$12,500, two-family; \$15,750, three-family; and, \$18,000, four-family.) The lending institution then records the mortgage loan instrument under FHA firm

commitment simultaneous with the seller's deed for the acreage, and receives satisfactory evidence of title before any work is commenced.

The full amount of proceeds of these 25 loans at \$8,000 each, or a total of \$200,000 is then deposited in a building loan account, thereby earmarking the funds solely for disbursement to the project.

Provided lien or completion bond plus joint control, with costs varying from one to two per cent, are obtained, or where the builder's financial position permits waiving the bond requirement and he personally guarantees, disbursements from the building loan account may be released as shown in the following schedule.

\$60,000—or 30 per cent on each loan—at the time of recording FHA mortgage, for payment of \$7,500 set aside for improvement of subdivision, which together with the builder's \$10,000 cash should complete tract acquisition and improvements. The additional \$57,500 released would be for purchase of materials and labor.

\$36,000—or 18 per cent on each loan—on each house when sub-floor is laid and rough lumber delivered.

\$36,000—or 18 per cent on each loan—on each house when roof is on and main building is enclosed, all structural members are exposed and while roughing-in is in place and visible; all heating, plumbing, and electrical work to be concealed is visible and ready for inspection. This is approximately the stage at which FHA makes its second inspection.

\$34,000—or 17 per cent on each loan—when 80 per cent completed; for example, if stucco, when brown coat plaster has been applied to exterior; if frame, after first coat of exterior paint has been applied.

\$34,000—or 17% on each loan—on each house when improvements have been completed, notice of completion filed, final approval received from FHA, and evidence obtained that all bills are paid in full.

\$200,000 total—100 per cent of loan.

This procedure varies from the conventional plan of releasing 20 per cent when subfloor has been laid, 20 per cent when roof is on, 20 per cent at plaster stage, 20 per cent when completed, and the final 20 per cent when mechanics lien endorsement has been received showing no liens of record. Instead, the releases are stepped up to accommodate the builder's actual requirements.

Thus the builder is aided under the above described procedure to finance site acquisition and improvements, with the result that building volume may be increased

(Continued to page 216)



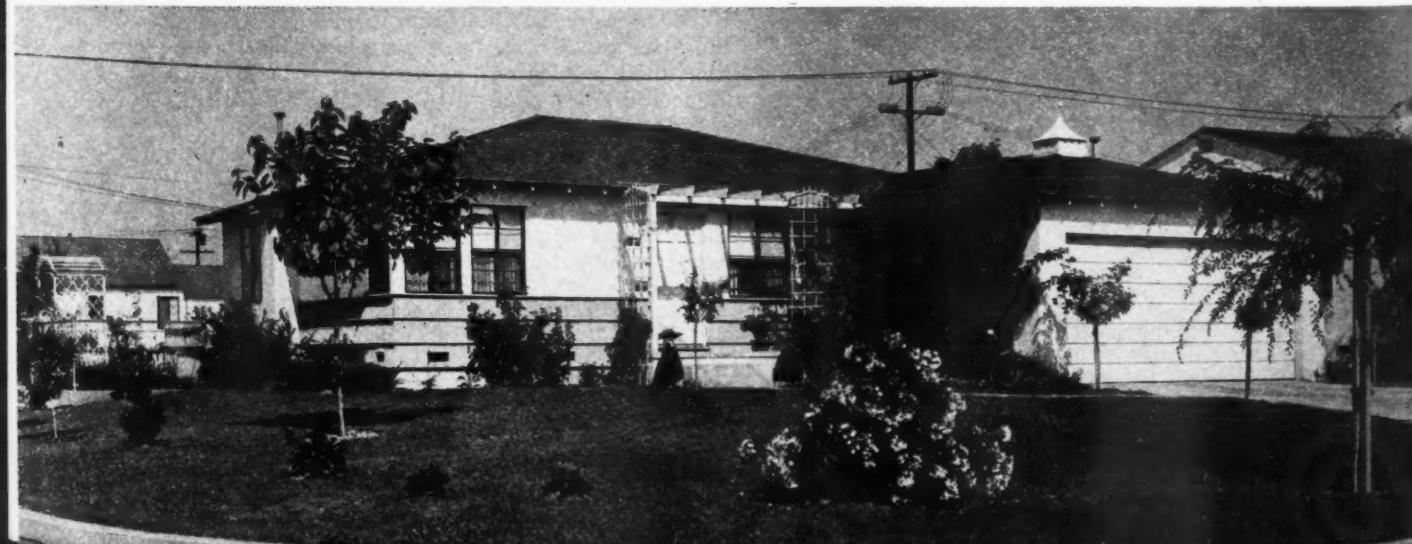
A MASS housing project completed under Section 603 of Title VI.

# Better Materials And Equipment Give Greater Value

90

American Builder, October 1947.

**Requirements of home building industry strike a broader cross section of the nation's industrial plant now than ever before in history**



CONSTRUCTION of houses that represent good values and that satisfy the widely varying desires and needs of the 1947 American public is a highly complex and technical undertaking. It is a challenge to the ingenuity and enterprise of every builder in the business. The challenge is particularly momentous because a host of elaborately colorful presentations, without current cost figures, in consumer magazines and newspapers have led the public to expect the ultimate in every 1947 house erected. The nation's home builders as a group, however, have accepted and are meeting the challenge.

Except for clothing and housing, consumers will readily accept standardized products necessary for everyday living. That makes it necessary for successful architects and home builders to provide as much individuality as possible in each house, both on the exterior and interior. But it is on the building site where each house must be given its individuality because back of the ability of builders to produce acceptable houses within economical price ranges are a host of manufacturers whose products are standardized. Fortunately for the consuming public, the inventiveness of building material and equipment manufacturers has produced an excellent variety of materials and equipment from which the home builder may choose. Along with the development of many excellent new basic materials and equipment items in recent years, alert manufacturers have been steadily improving older products.

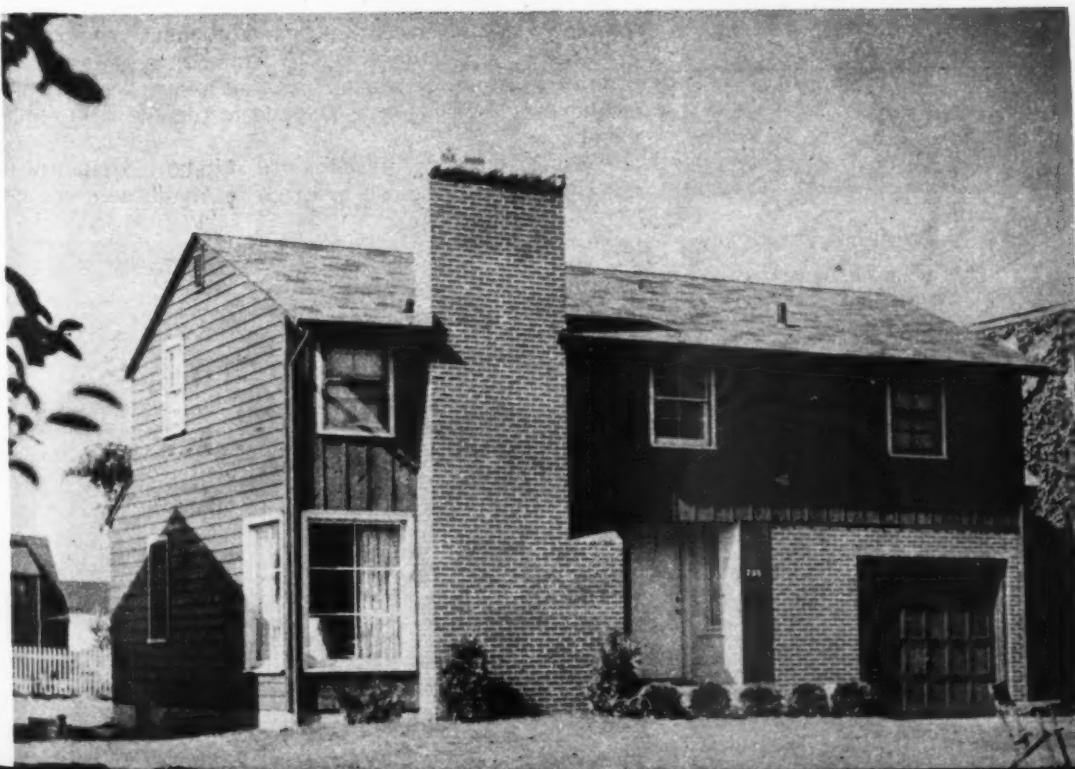
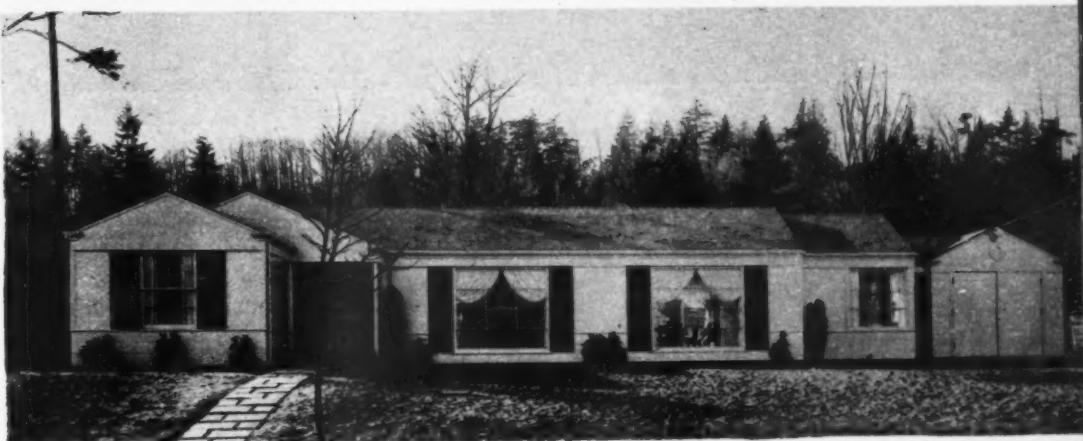
The current functionally-designed houses incorporate more permanence and living comfort than anything ever before offered. They are more sound structurally, not only because of the excellent materials used and the expert knowledge of their assembly and use by good builders, but because current home financing practices universally require that certain minimum structural standards be achieved.

The material and equipment requirements of today's home building industry strike a broader cross-section of the nation's industrial plant than at any time in history. The natural competition for permanent recognition in the market, which follows such a situation, is resulting in sound and steady refinement and improvement in all materials and equipment. This is particularly applicable

TODA  
house  
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TODAY'S functionally-designed houses in the prevalent broad range of prices offer more permanency in value and livability for all classes than anything previously submitted for their acceptance.



CONSTRUCTING houses to satisfy today's critical public is a highly complex and technical undertaking that is a challenge to every home builder.



**RELUCTANCE** by the public to accept regulation or standardization in housing makes it necessary for architects and home builders to give as much individuality as possible.

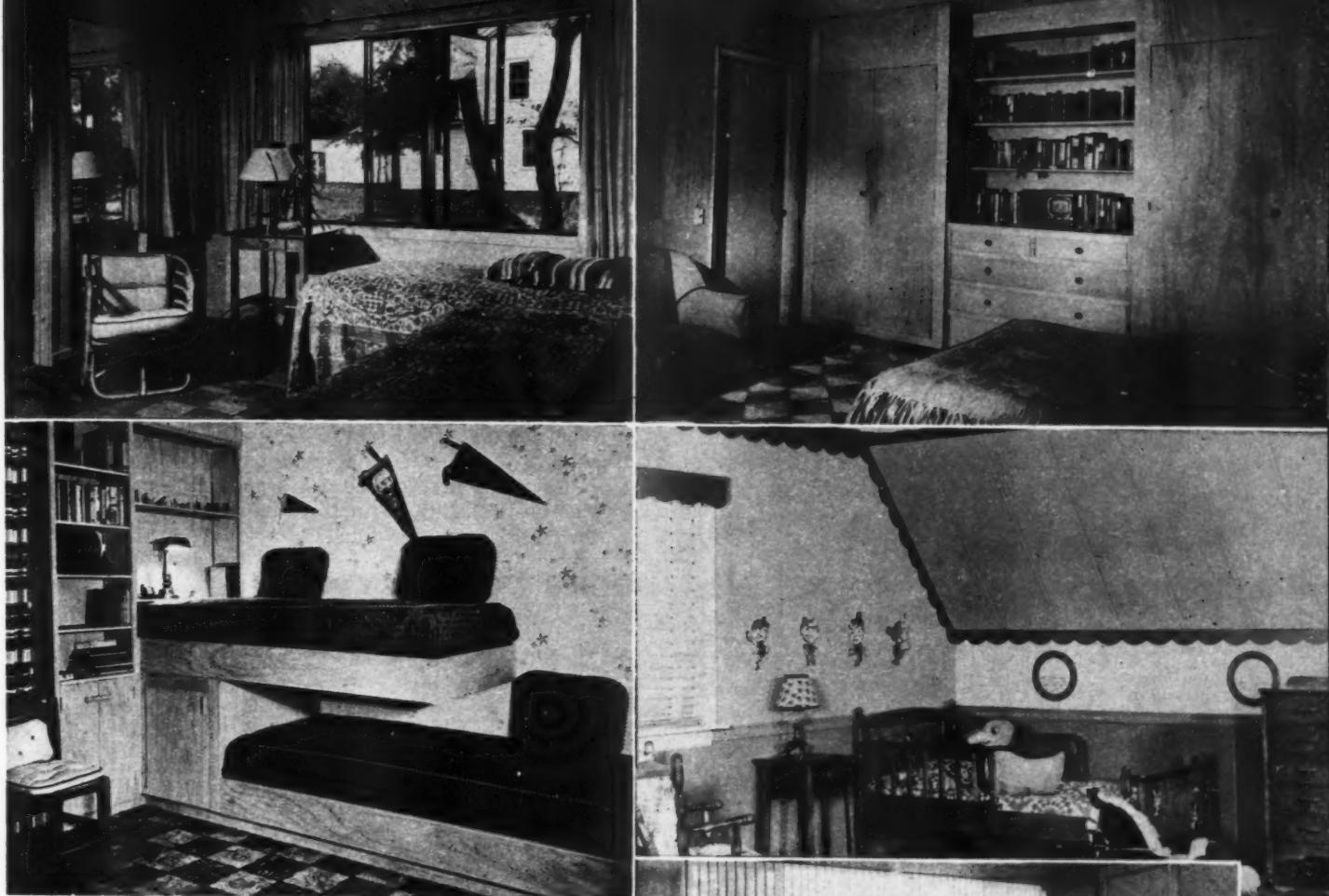


to all types of heating and air conditioning, plumbing, kitchen and laundry equipment and hardware as well as structural materials. That is fortunate, for it permits home builders to steadily improve the quality of their houses and home equipment. But at the same time, it clothes them with a great deal of responsibility. Given a much greater variety of materials and equipment from which to choose, many comparatively new and untried, it is paramount that builders choose the right products to do the most efficient and satisfactory jobs for which the products are designed.

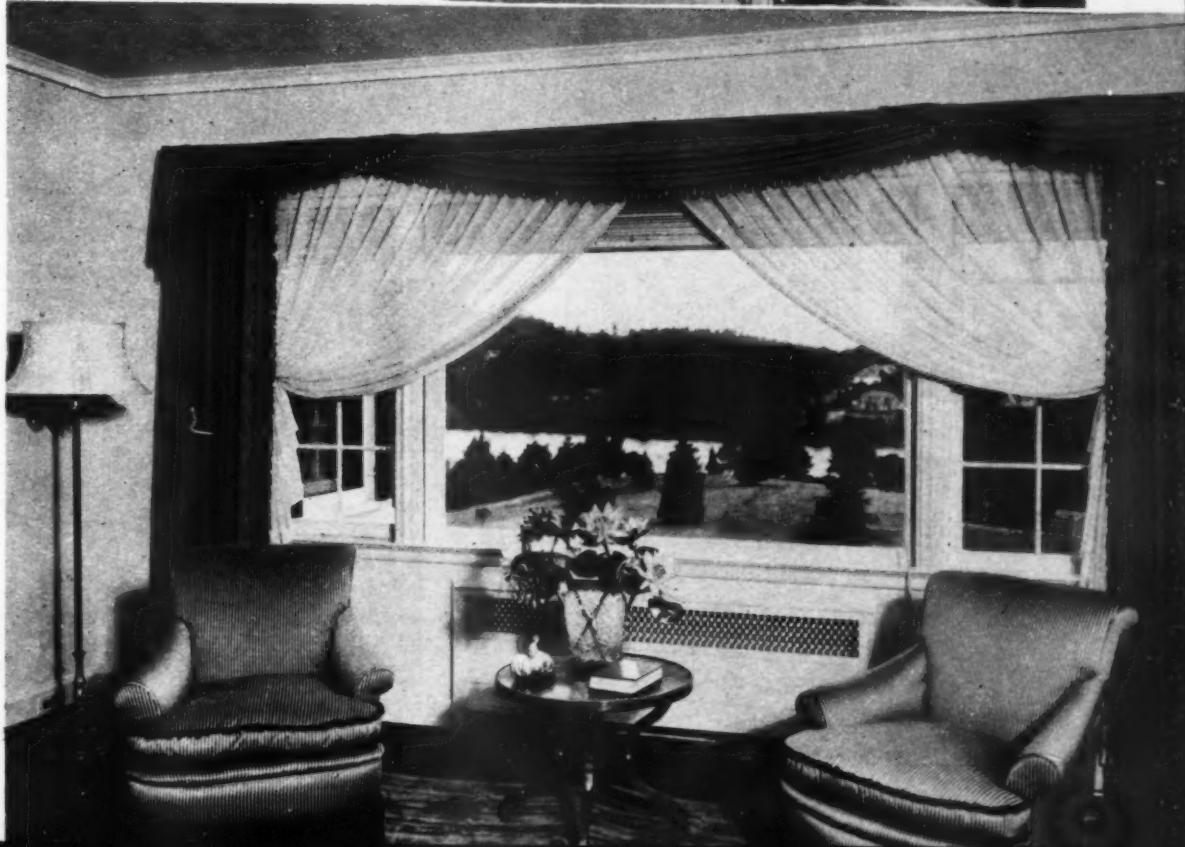
Fine engineering and complicated manufacturing processes enter into practically every phase of home building. Windows, doors, trim, cabinets and other such components are factory-made, designed by trained technicians and produced on precision machines that assure accuracy and permanence, before being shipped to the site ready to be installed.

Automatic heating systems are standard equipment in new houses. Extensive research by manufacturers and

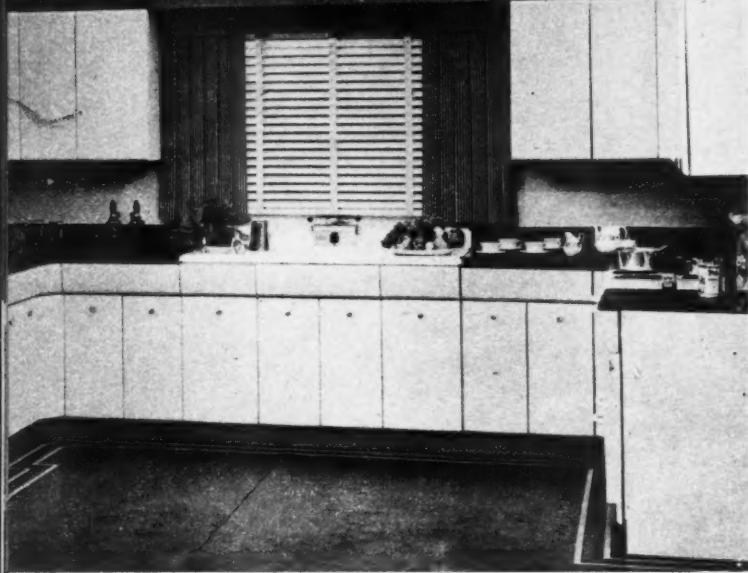




**With the finely designed and engineered components that go to make a complete house, the home builder of 1947, whether he be large or small, has more responsibility than ever**



**INGENUITY and enterprise by progressive manufacturers have provided builders with a wide variety in both exterior and interior finishes they can use to achieve good variety and individuality.**



educational institutions has resulted in development of equipment which provides year-round indoor comfort for today's home buying public. The sensitive and highly technical equipment now available to achieve indoor comfort without time-consuming attention has definitely changed home design, construction and maintenance problems. The present strong trend toward single-story rambling houses was heavily stimulated by development of heating and ventilating systems which would automatically and economically function in such structures. Side-wall and ceiling insulation, vapor barriers, attic ventilation are all contributions by progressive manufacturers to assist in these developments.

The modern kitchen, laundry and bathroom equipment items now available for homes are extremely important factors to consider in any appraisal of today's values. Housewives not only receive beautiful, more efficient devices to assist them in their daily chores, but the wall, floor and hardware finishes in kitchens and bathrooms,



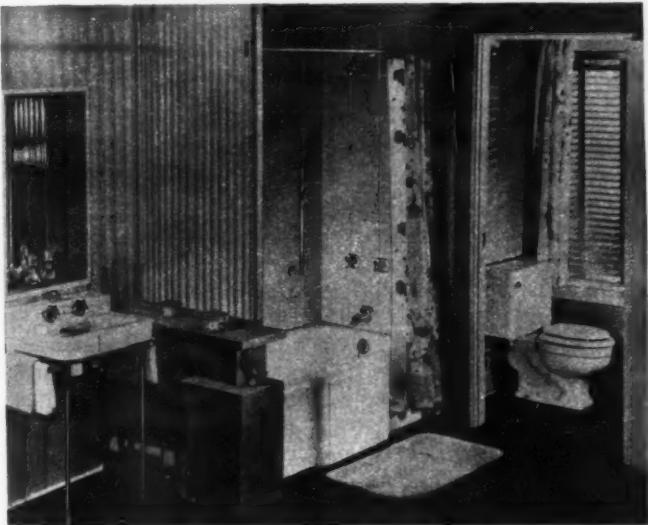
THE modern kitchen, laundry and bathroom equipment items now available for homes are extremely important factors to consider in any appraisal of today's values.



as well as in all other rooms, are easier to maintain.

In the light of the overall commodity price and labor cost situation at present it is not practical to compare today's home prices with preceding years. It is even more ridiculous to make such comparisons when the quality of materials and efficiency of equipment in today's houses are considered.

With all the finely designed and engineered components that now go to make a complete house, the successful home builder of 1947, whether he be large or small, is much more than his counterpart of a generation ago. He is no longer strictly a tradesman. In addition to being a good business manager and financier, he must understand the basic principles of good land planning, landscaping, architecture, heating, plumbing, electrical wiring, kitchen planning and interior decoration as well as good construction with a wide variety of basic building materials. Here, too, today's home buyer gets more for his money than ever before.



**SENSITIVE** and highly technical equipment now available to achieve year-round indoor comfort without time-consuming attention has definitely altered house design, construction and maintenance problems.



## Kitchen Planning

**Smart designers apply accepted kitchen-planning fundamentals in laying out space requirements in order to achieve maximum comfort and convenience in the all-important "work center"**



LEFT: A trained planner is explaining to a customer the plan he has developed from the Westinghouse Kitchen Planning Guide.

LIVABILITY of the home of today is dependent upon many factors, not the least of which are adequacy of room area, relationship of one room to another, proper circulation within the rooms, orientation of rooms and equipment that offers the occupants the maximum of comfort and convenience.

Undeniably every space in the home merits careful study by the designer, but it can properly be said that the rooms in which "fixed equipment" is installed, such as in the kitchen, laundry, utility room and baths, should receive as much, if not more attention in the design

stage than those rooms—the living room, dining room and bedrooms—in which equipment and furnishings generally are movable.

At one time or another most home builders have learned to their regret that once the size and shape of the kitchen, the laundry and the utility room have been determined, it was an item of major operation and expense to alter them to correct a condition that could have been avoided had proper study been given at the time of planning.

The primary consideration in planning the kitchen—the "workshop of the home"—is to determine

what equipment to plan for, not only initially, but with a view toward the years immediately ahead. It is not at all unreasonable to assume that items of equipment considered "essential" to good living will constantly increase and become mandatory in homes of all price ranges, as time goes on.

One of the controlling factors in the selection of items of equipment for homes of varying cost is economics—that is, the ability of the prospective occupant to finance and eventually operate the equipment to its fullest use. This factor declines in importance as the over-all cost of the home increases.

To be efficient in use the kitchen must, first, be clear of unnecessary traffic, at least through the work areas; second, have nonworking and the less important work areas separated from normal routine working areas; and third, have work areas divided into work group centers.

The following points should be observed in efficient kitchen planning:

1. Steps will be saved if the equipment is so arranged that natural movements (usually from right to left) starting where food is stored and prepared, are possible. Also, it should be arranged in such a way that movement is continuous in one direction.
2. Place equipment as close together as possible so that there will be a continuous counter surface.
3. Provide adequate storage space,



BUILT by General Electric, this U-shaped plan makes maximum use of the open end of the U.

## a Science Today—

and allow sufficient clearance above the counter surface so that the work can be done in comfort. Allow toe space at the floor for all base cabinets and equipment.

4. The sink should be between the place where food is stored and prepared, and where it is cooked and served. This makes for greater efficiency and comfort.

5. The standard fixed counter surface height has been universally established at 36" from the floor. Wherever space permits, a portable table from 30½" to 32" high, equipped with casters should be planned. This table can be moved from one work center to another and gives a two counter surface height, adding greatly to the efficiency and comfort of the kitchen work space.

It is now accepted by leading house planners that the kitchen should be divided into three primary "work centers"—one for food storage and its preparation; one for cooking and serving; and one for cleaning. These three functional centers, each serviced with fixed equipment, plumbing fixtures, base and wall cabinets, counter surface, portable appliances, utensils and dishes—all in the proper relation to each other—make up the normal routine area.

The organization of each center ranks in importance with its relation to the other centers. Food supplies, utensils, equipment, dishes, and so on, must be grouped and arranged properly in each center, or the kitchen loses some of its over-all, step-

saving efficiency for the housewife.

The food storage and preparation center is planned around the refrigerator where perishable food is kept, the storage cabinets for some staple supplies and utensils, and the counter surfaces where the food is prepared for cooking.

Proper arrangement at this center should make it possible to prepare either a single recipe, or food for an entire meal with a minimum number of steps. There should be generous counter surface next to the refrigerator for the actual preparation. The ideal arrangement is a continuous counter surface from refrigerator to sink because so much food preparation requires the use of the sink.

Sufficient clearance in height between counter surface and underside of wall cabinets must be allowed for the mixer, 16" being considered a minimum.

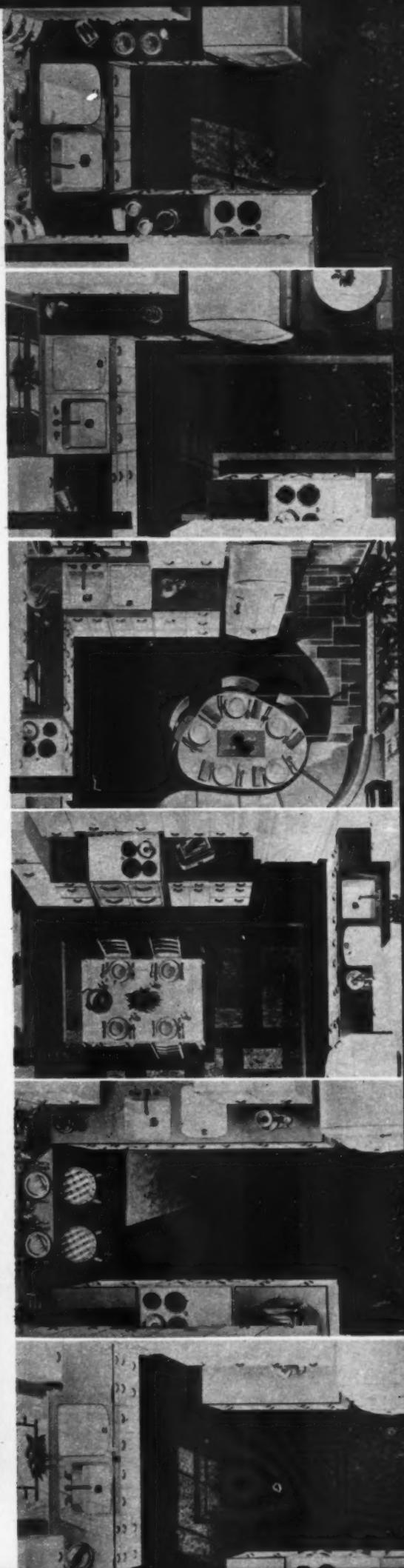
The cooking and serving center is planned around the range with shelves or cupboards for cooking utensils and serving dishes, so that food can be served as hot as possible. The location of this center is generally most desirable for convenience in serving, near the "eating center" in the kitchen or near the door to the dining room.

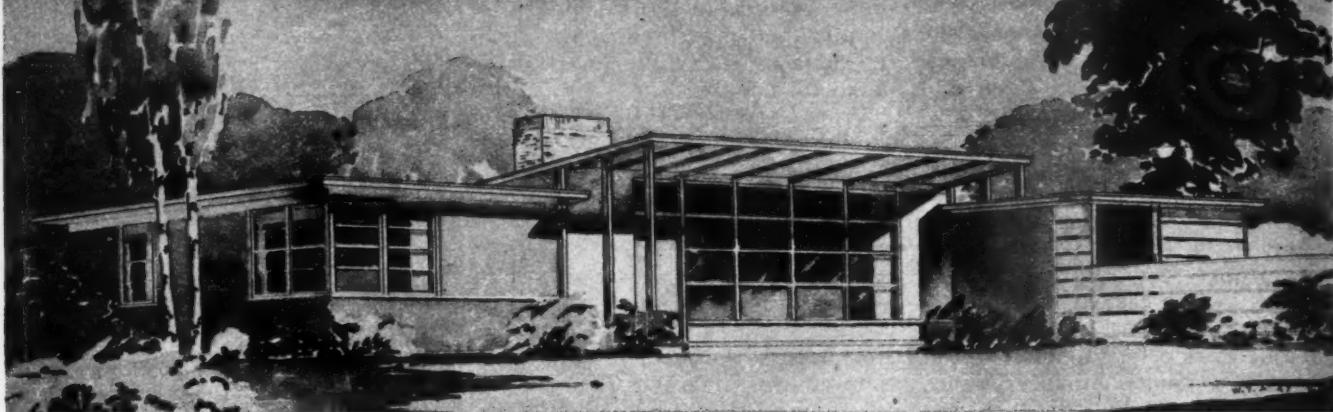
For the most efficient operation of the range, and also for greater convenience while cooking food at the range, a clearance of 22" between the range top and the underside of the wall cabinet should be allowed.

The cleaning center is planned  
(Continued to page 162)



THIS General Electric kitchen plan features floor-to-ceiling cabinets and breakfast bar.





GARDEN view of a simple horizontal type of house that neither conforms to nor offends tradition.

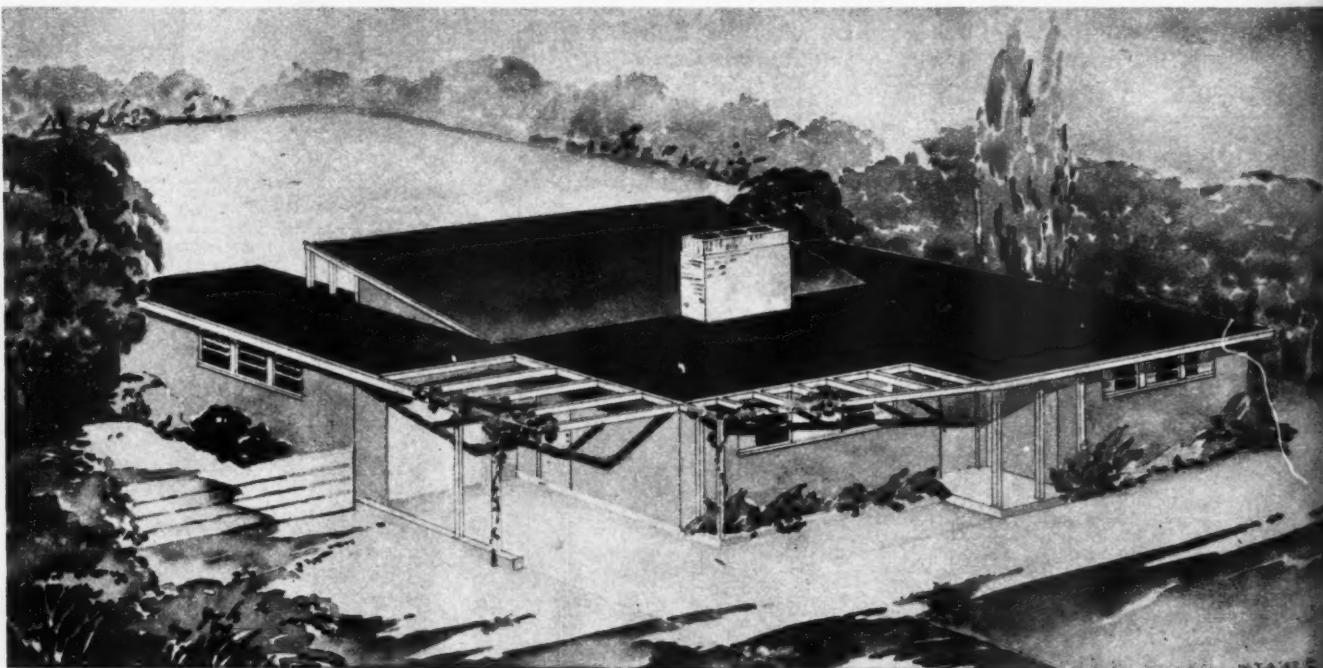
*Anicka*  
**BLUEPRINT  
HOUSE No. 9**

## Flat Roof or Gable Roof from One Plan

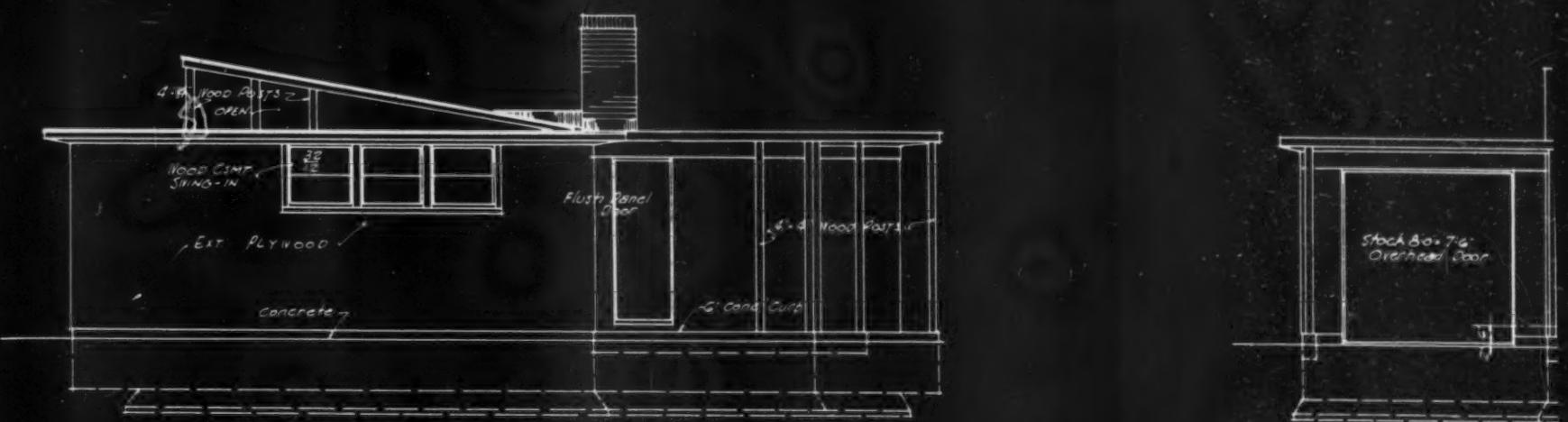
The flat roof on the house shown here opens the door to definite savings in construction costs

WALTER T. ANICKA, architect of Ann Arbor, Mich., departed from his usual style of presentation this month by producing a house plan with two different types of roof. The reasons are to offer a comparison between the contemporary flat roof and the traditional low-pitch gable roof, and to illustrate that modern design need not necessarily depart too

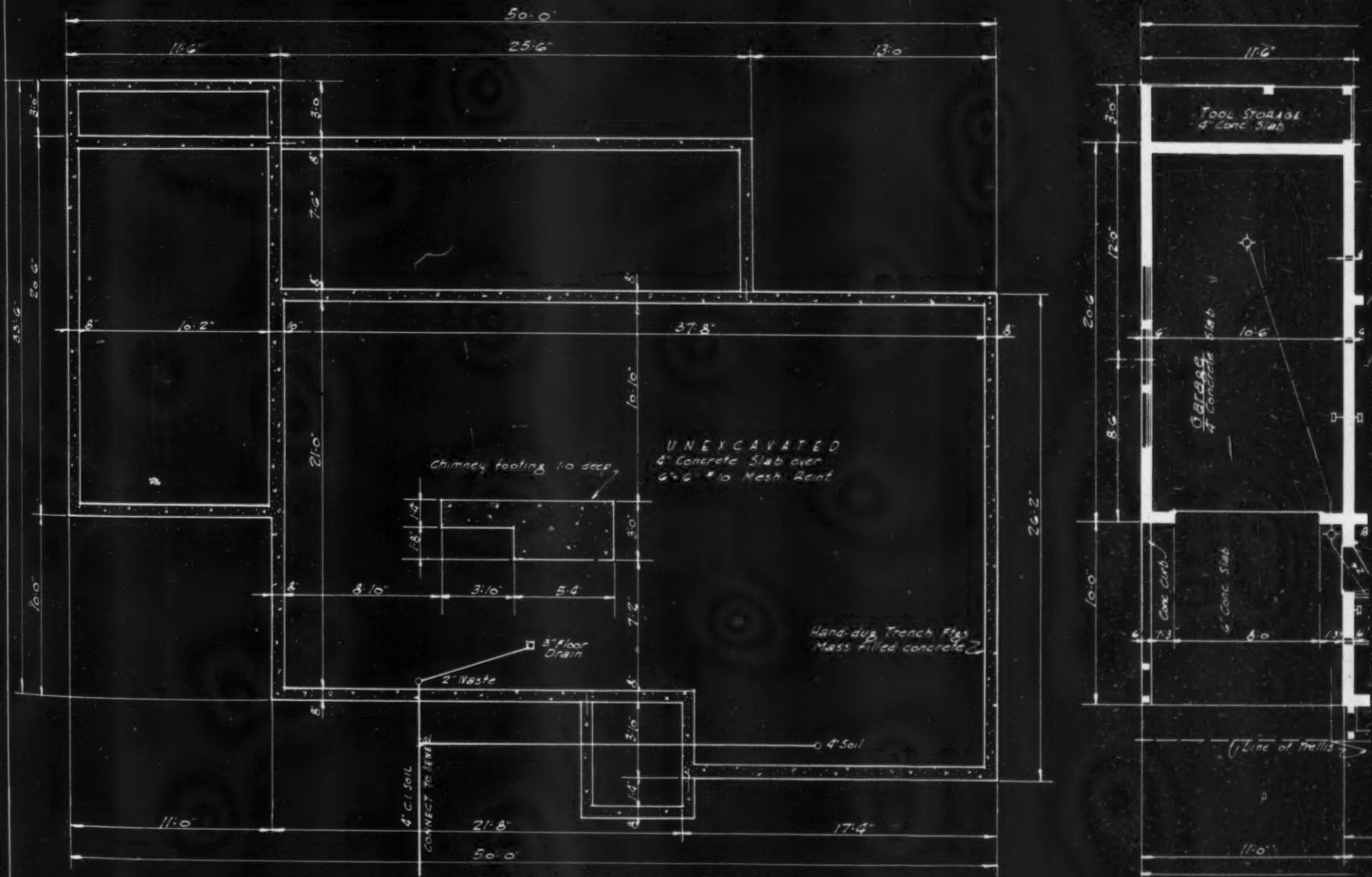
(Continued to page 103)



TOWARD the street the house is essentially a screen for privacy. Where light is required the windows are high.

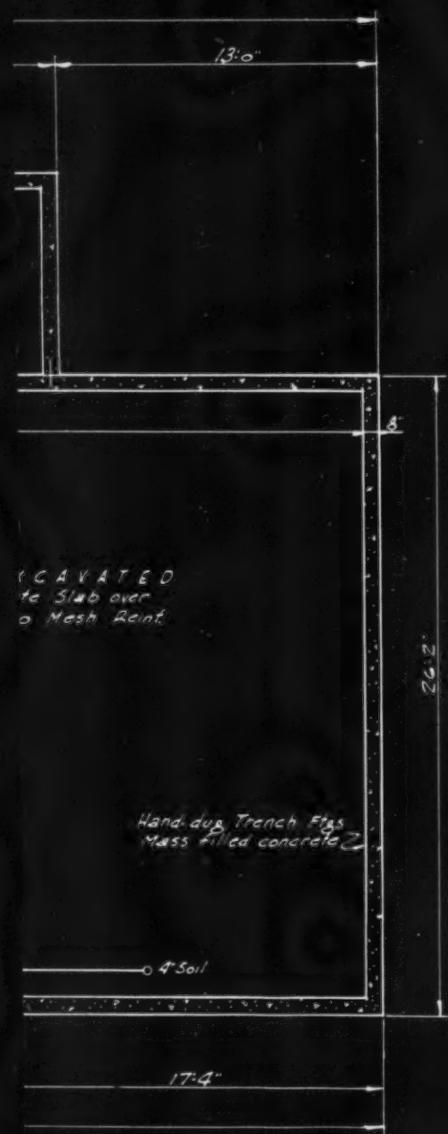
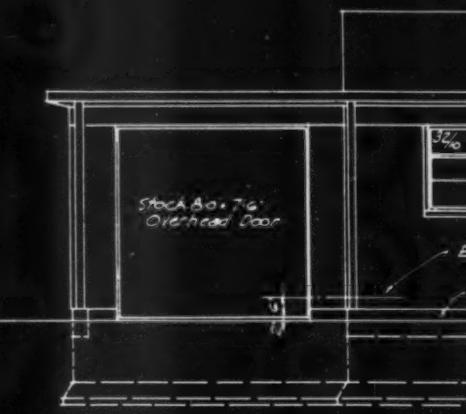


LEFT SIDE.



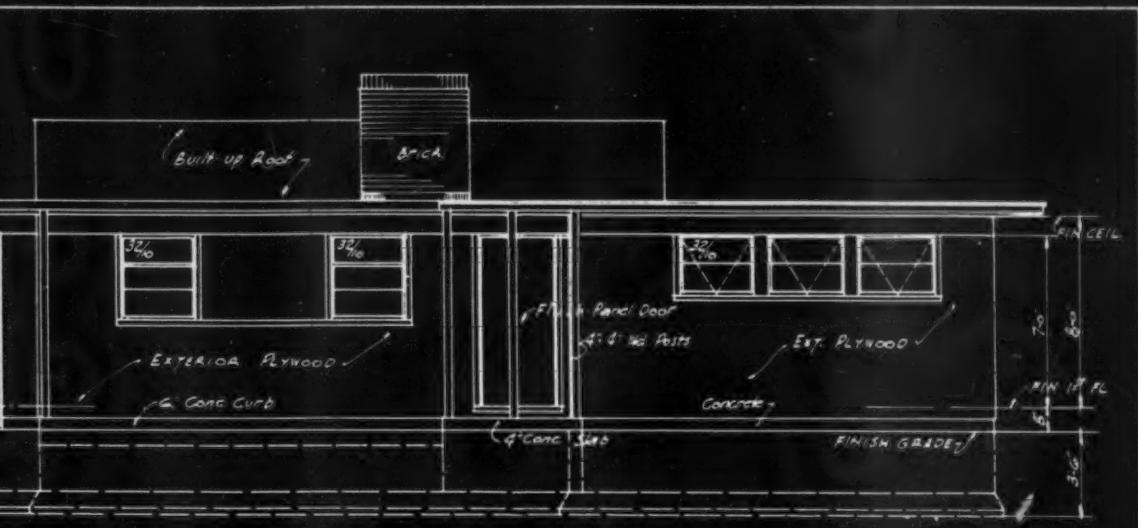
FOUNDATION PLAN.

SCALE 1/2" = 10'

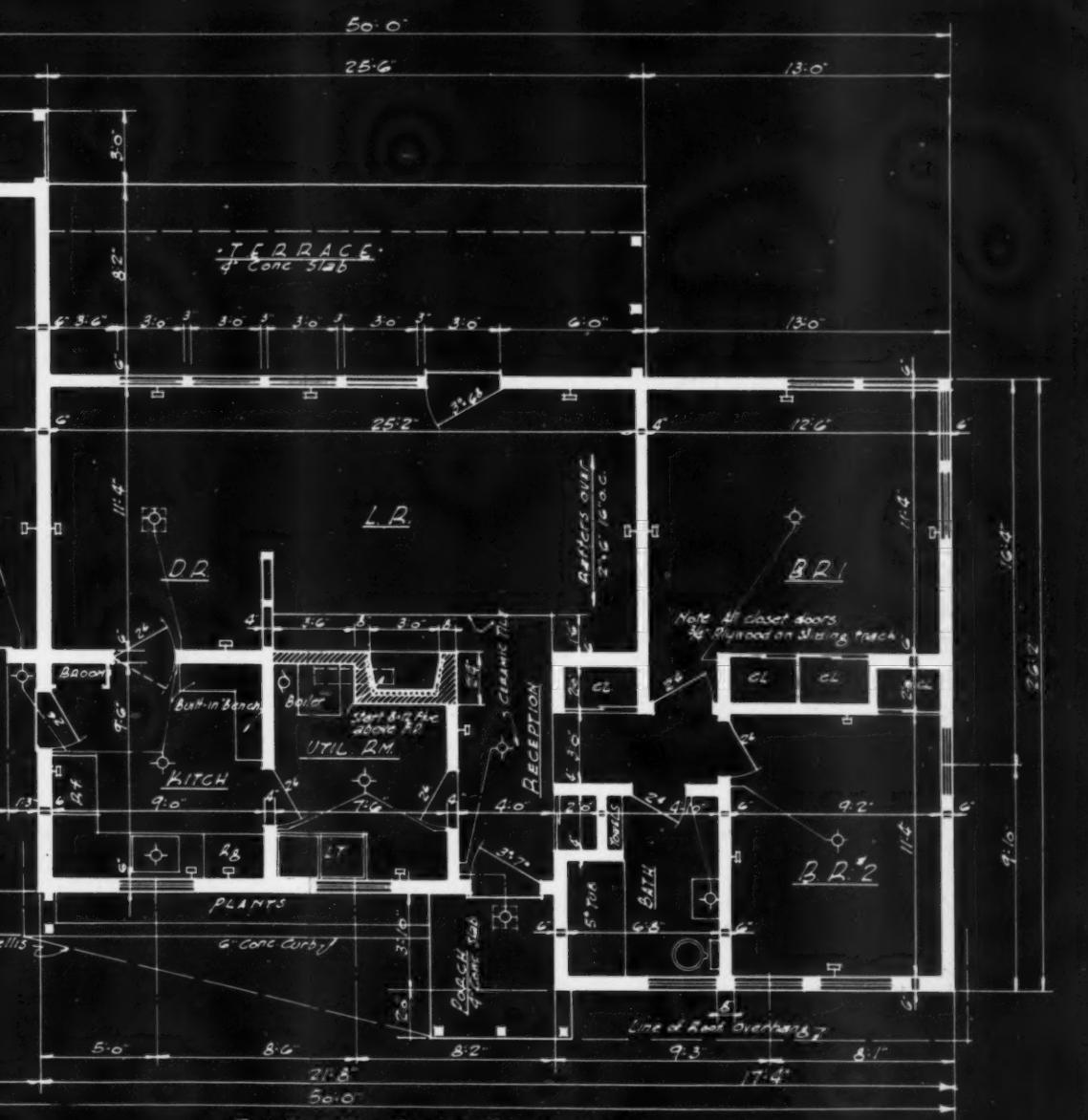


AN-

SCALE 1/10"

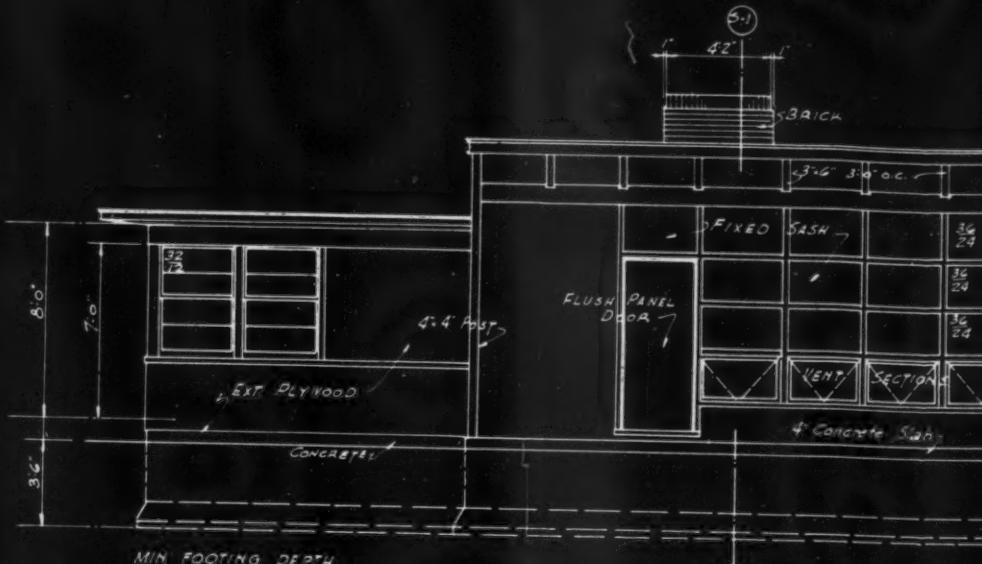


FRONT ELEVATION

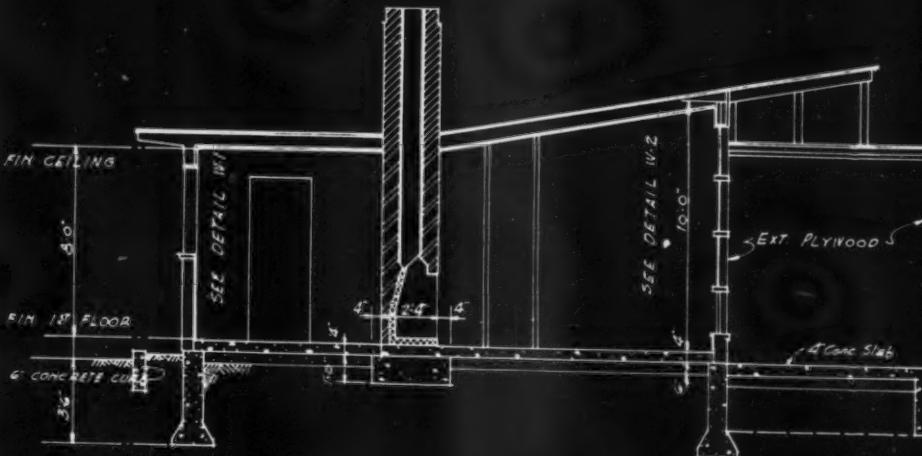


FIRST FLOOR PLAN.

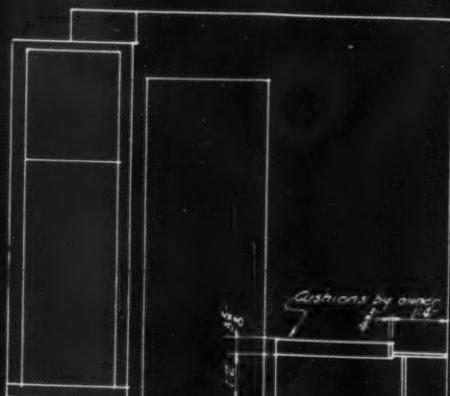
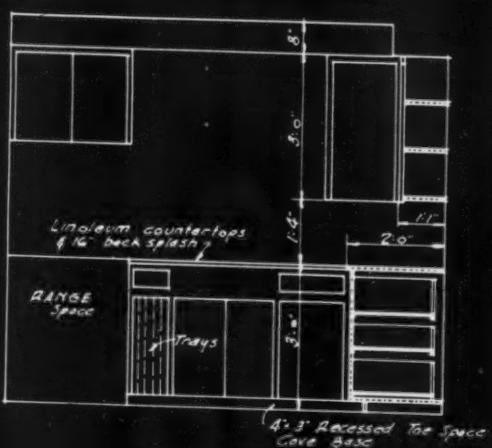
**DESIGN NO. AB 122**  
**AMERICAN BUILDER BLUE PRINT SERIES**  
Designed By  
**WALTER T. ANICKA.**                           **ARCHITECT.**  
**Ann Arbor,**   **Michigan.**  
Simmons Boardman Pub Corp. 105 W Adams St. Chicago, IL



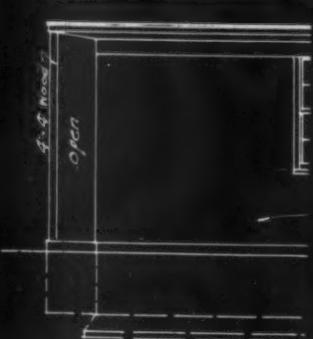
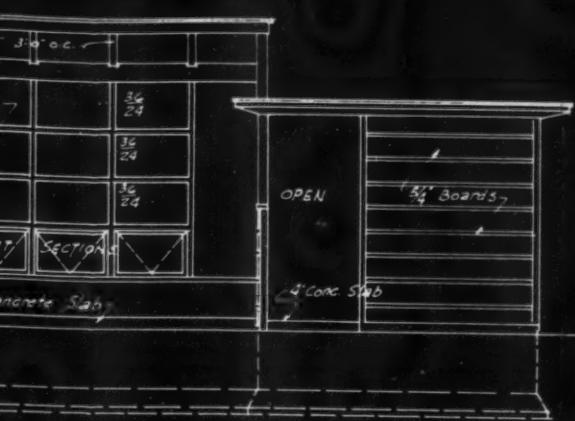
REAR ELEVATION



SECTION S-1  
SCALE 1" = 10'

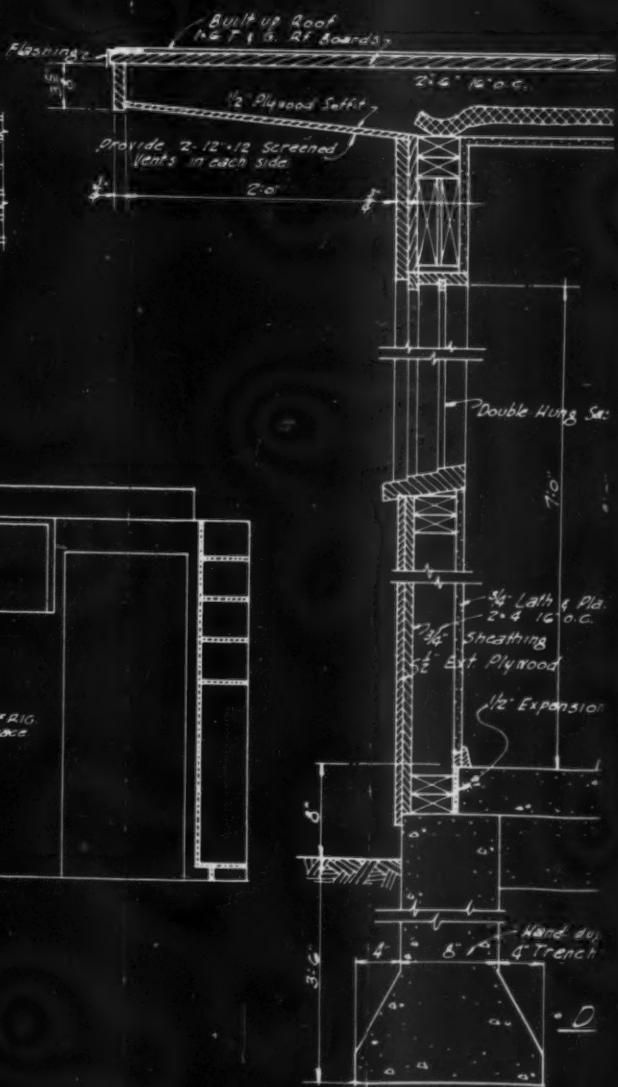
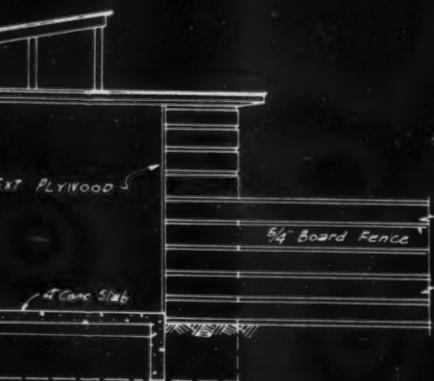


KITCHEN DETAILS  
SCALE 1" = 10'

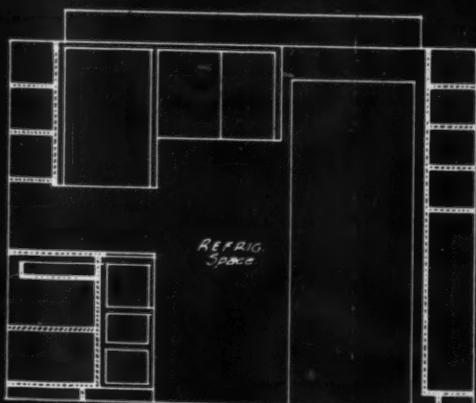


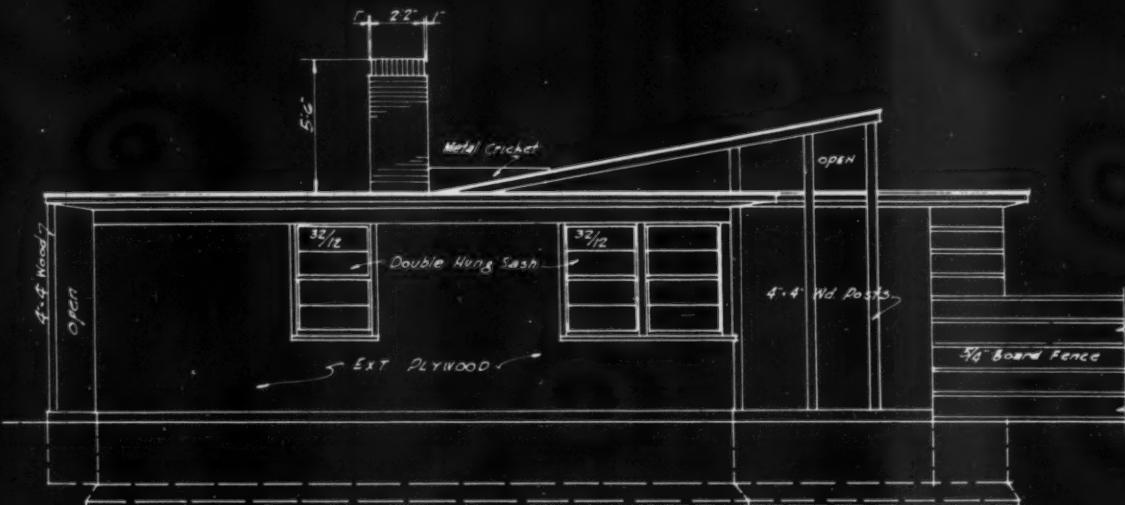
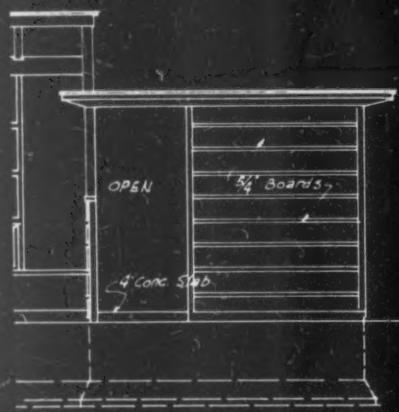
ELEVATION.

SCALE  $\frac{1}{8}$ :10"



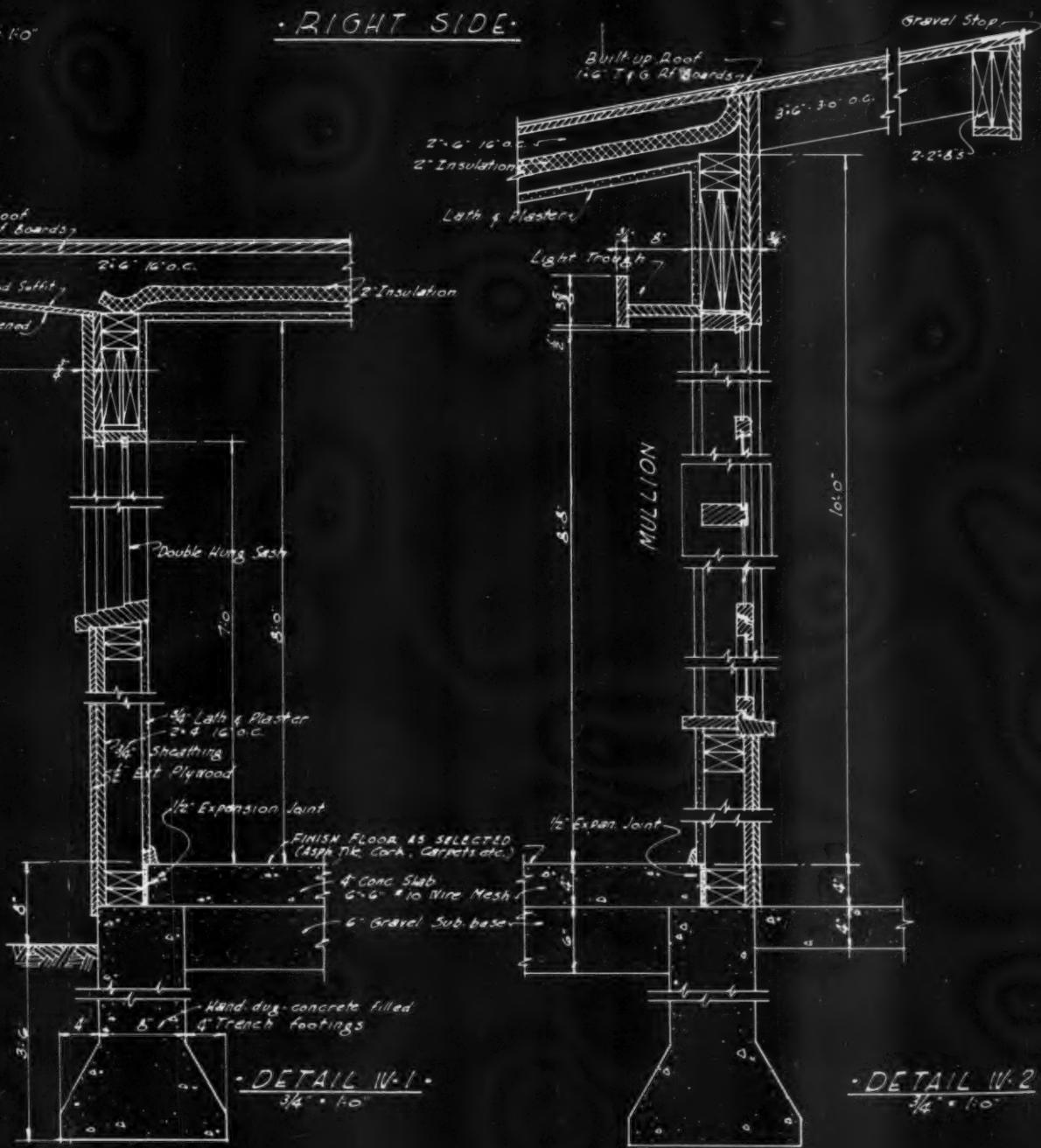
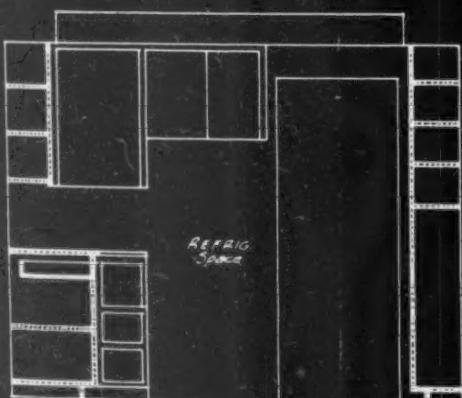
DETAILS.





SCALE 1/8" = 1'-0"

RIGHT SIDE:





WITH fenestration the same, the difference between this design and the other is entirely in roof arrangement.

**In a concession to tradition Mr. Anicka presents the same modern house with a gable roof. This shows that modern design need not necessarily depart too radically from customary exteriors**

(Continued from page 98)

radically from the customary exterior forms. It will be noted that the flat roof treatment has generous roof overhangs on all sides, and a raised section for the living room. The function of the raised roof section is to relieve any possible suggestion of squatness on the outside, and to provide roominess with a high ceiling for the living room. The gable roof is used to give a suggestion of the currently popular ranch type of house, and to please those to whom the flat roof does not appeal, and who otherwise might object to the entire design.

In presenting the gabled roof as an alternate, Mr. Anicka commented that it is a concession to tradition, and that it is not his intention to imply that it has economies. The flat roof, continued Anicka, opens the door to definite construction savings, and presents a challenge to builders to make those savings with this departure from the better-known gable roof. At the

same time, he said, the gable roof treatment does not in any way detract from the modernism of the overall effect.

The width of the flat roof overhang was calculated carefully to control the amount of direct sunlight entering the rooms during the summer season. The open rafter effect at the garage and at the main entrance to the house was provided for climbing vines in the summer to further shield parts of the house from the sun's direct rays. On the other hand, the rafters are designed so that in the winter months their interference with the passage of outside light to the interior of the house is minimized.

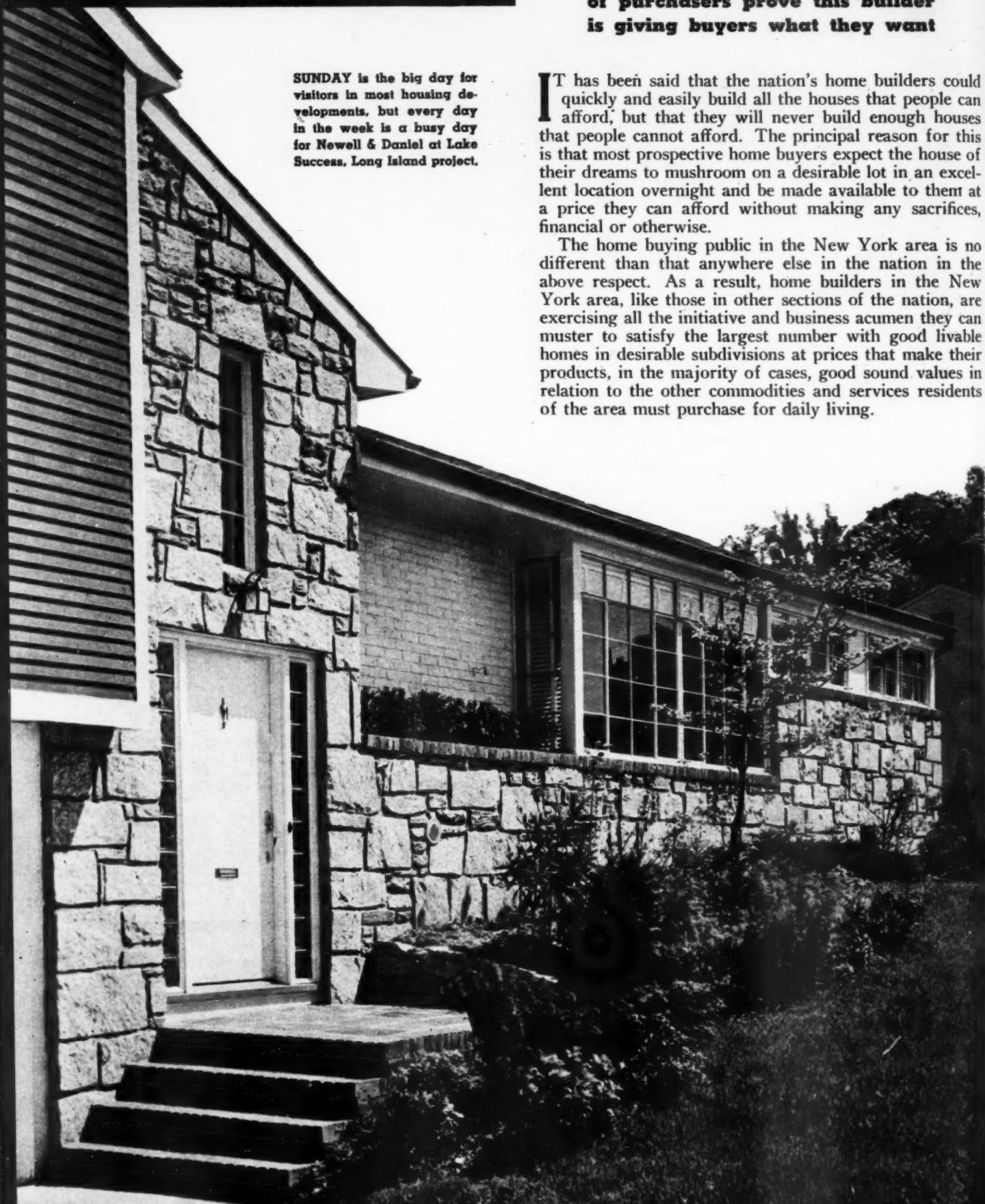
All windows are stock items. This includes the large window in the living room. Exterior walls are plywood, and the gable roof is shingled.

Mr. Anicka said that sound design always has been predicated on the application of common sense in the use of modern materials and equipment.

Architect Anicka in presenting both flat and gable roof treatments of the same house, invites discussion and comments on the relative desirability of the two. Builders are urged to contribute their ideas and practical observations, addressed to Mr. Anicka or to the editor of American Builder

# EAST

## Houses Best Buy For Today's Dollar



## Building to Satisfy The Critical Public

Ready acceptance and enthusiasm of purchasers prove this builder is giving buyers what they want

**I**T has been said that the nation's home builders could quickly and easily build all the houses that people can afford, but that they will never build enough houses that people cannot afford. The principal reason for this is that most prospective home buyers expect the house of their dreams to mushroom on a desirable lot in an excellent location overnight and be made available to them at a price they can afford without making any sacrifices, financial or otherwise.

The home buying public in the New York area is no different than that anywhere else in the nation in the above respect. As a result, home builders in the New York area, like those in other sections of the nation, are exercising all the initiative and business acumen they can muster to satisfy the largest number with good livable homes in desirable subdivisions at prices that make their products, in the majority of cases, good sound values in relation to the other commodities and services residents of the area must purchase for daily living.

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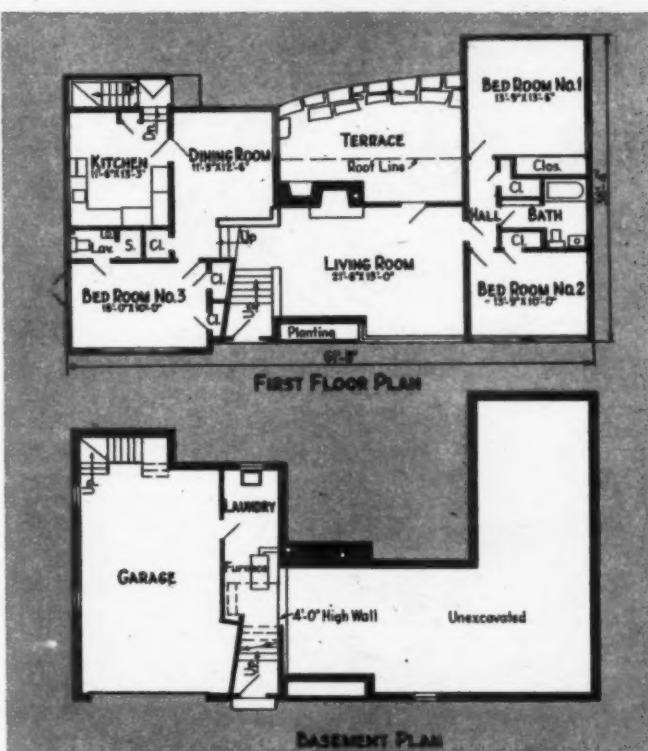
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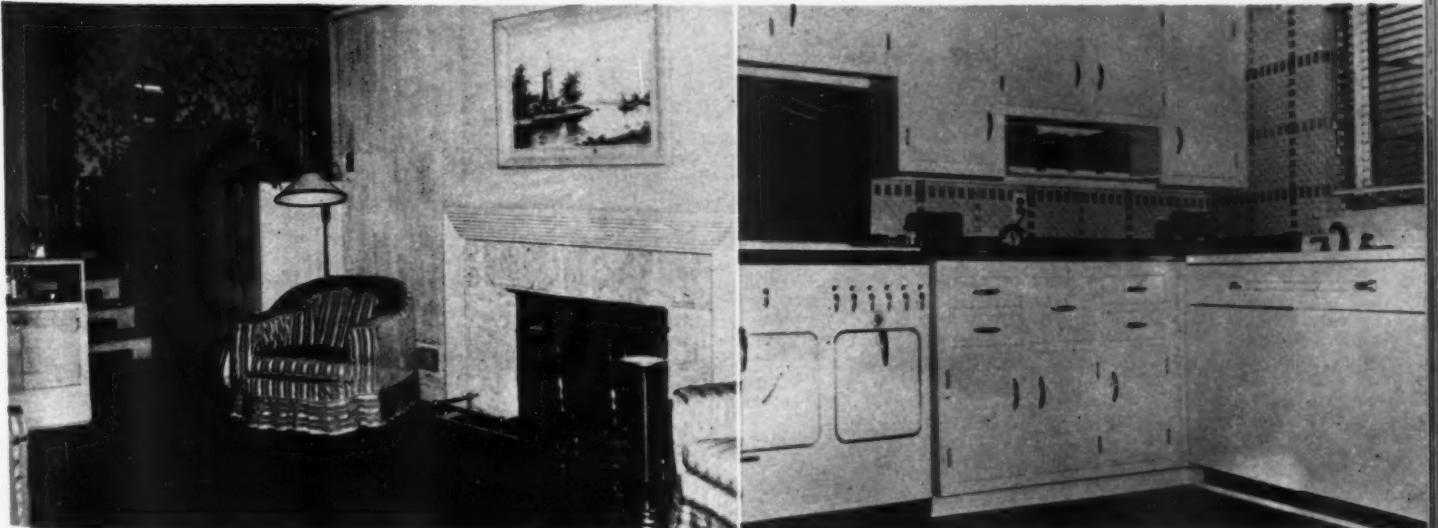
THIS is one of the best houses in this development where the price range is from \$18,500 to \$33,000.

The house illustrated on these two pages is one of about 40 being constructed this year by Newell & Daniel at Lake Success, on Long Island. Although this is not their highest priced house it is one of their best in a price range from \$18,500 up to about \$33,000. The Newell & Daniel operation was selected for treatment in this special manner because it is not a huge, mass production system of house output, but is carried on in a manner similar to that which results in construction of most of the nation's homes each year. LeRoy Newell is sales and business manager of the operation, while Porter O. Daniel does all the designing and superintends construction. Practically all the homes that have been built in the desirable residential area of Lake Success in the last five or six years have been designed and constructed by Newell & Daniel. They have been responsible for the land planning, and took full advantage of all natural topography, timber, transportation, shopping, educational and recreational facilities. Beautiful sloping, curved streets wind through block after block of individually designed homes, attractively landscaped.

This year, in order to curtail labor and material costs, they have adopted some standardization in floor plans and materials, but still change elevations and exterior finishes to maintain individuality for each house. These home builders, like others throughout the nation, are conscientiously endeavoring to deliver houses to veterans and others at the lowest cost consistent with minimum desirable living standards in their neighborhood. But

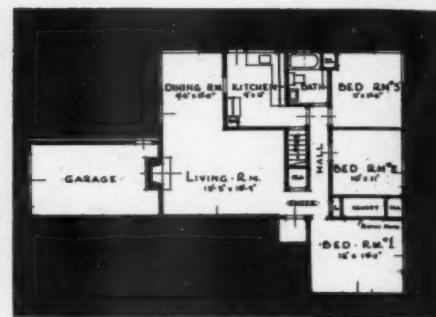


TWO-LEVEL house shown has three bedrooms and two bathrooms.



LIVING room is below level of dining area. Kitchen has automatic dishwasher and garbage disposal unit.

**Conscientious design, close supervision deliver values**



many factors which are beyond their control, such as the attitude of labor, availability of materials and their prices, leave them no choice but to do the very best they can under the circumstances. Mr. Daniel, who, as construction superintendent, is responsible for keeping materials and labor on the job and coordinated, says: "We have more headaches trying to build 40 houses in 1947—houses which are somewhat standardized as to floor plans—than we had building 72 individually-designed, larger houses before the war."

There is some satisfaction, however, in the fact that Newell & Daniel this year are selling their houses faster than they can finish them. Sunday is usually the big day for visitors in most housing developments, but every day in the week is a busy day for Mr. Newell and his staff handling sales and other details for future owners. The complimentary remarks made by visitors, plus the fact very little actual selling is necessary, convinces Newell & Daniel they are delivering the type of houses today's buyers want in their

A WAR veteran may buy one of these \$18,500 three bedroom quality ranch houses on a 75x100-foot lot for about \$2,000 down—less than the present price of a good automobile.





USING conventional quality materials and methods, these builders are delivering six-room colonials on large lots for \$18,500.

area for the prices they are willing to pay for the opportunity to enjoy the livability and environment that goes with each purchase.

At the present time Newell & Daniel are building 33 houses in their \$18,500 to \$21,000 price range. These consist of either the three-bedroom ranch-type or three-bedroom two-story colonial, located on lots with minimum dimensions of 75 x 100 feet. They are of conventional frame construction with basements and are heated with automatic oil-fired forced warm air furnaces.

All Newell & Daniel \$18,500 houses are on high rolling terrain, heavily wooded. Each lot is completely landscaped as part of the sale price. The houses have slate roofs, are insulated with mineral wool in sidewalls and ceilings, have hard wood floors throughout, venetian blinds and an electric refrigerator in the kitchen, which is completely equipped with adequate, good quality modern cupboard and work counter space. Large, well-planned window areas equipped with metal casements are an outstanding feature of these houses. Although

the floor plan for the ranch houses is basic for all of them being built, the clever use of exterior finishes which include wood as well as masonry, plus plan reversals, changes in room arrangement, fireplaces, garages and so forth result in such variation that the uninitiated would not recognize the same basic plan in all houses,

The same devices are used as much as possible in this project to vary the appearance of the two-story colonials. Garages are shifted about, roof lines are changed, window treatment is varied and exterior finishes are alternated to remove monotony.

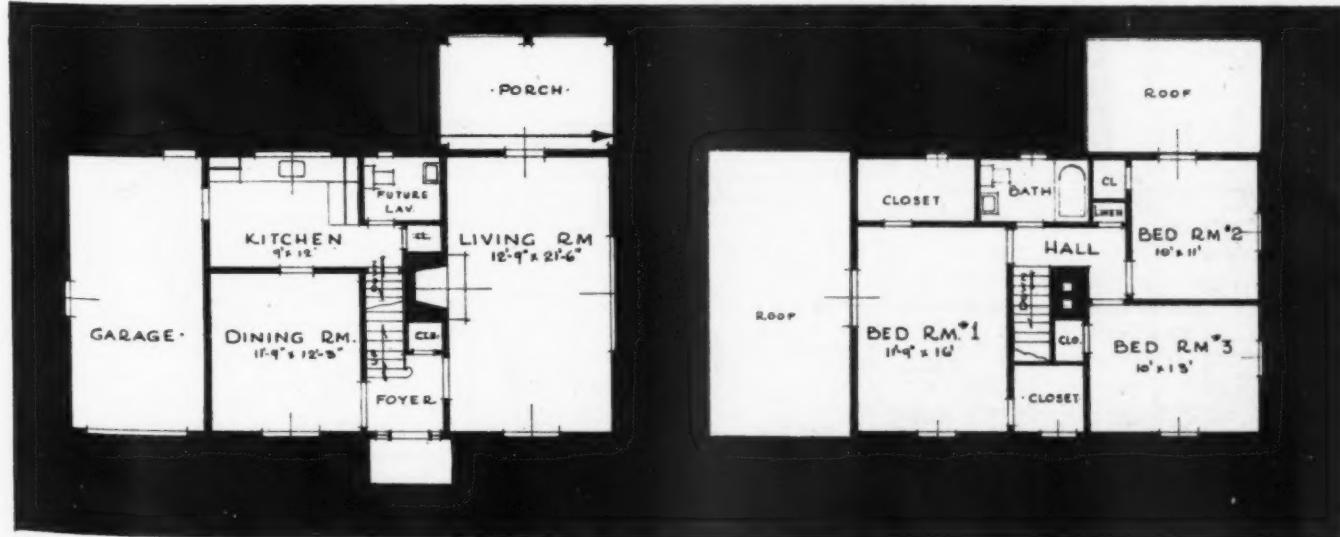
Certain segments of the building industry have been criticized considerably from many quarters for erecting groups of stereotyped - appearing houses from one basic floor plan. Yet builders like Newell & Daniel, who offer individuality but must of course be reimbursed for the added expense, will be upbraided for overcharging by the very same critics who object to monotonous-appearing subdivisions.

The Newell & Daniel houses in the \$25,000 to \$35,000 price range, designed by Porter Daniel, include

numerous built-in desirable features which modern engineering and materials make possible in the 1947 home. Beautiful fenestration, blended with the ingenious use of stone and other exterior coverings give these long, low houses distinction and beauty. Interior finishes include plaster, glass block, hardwood plywood, clever decoration, recessed fluorescent lighting, alcoves and odd corner treatments that make for comfort and satisfaction. The ultra-modern kitchens are equipped by the builders with the newest in automatic dishwashers and garbage disposal units, as well as the best gas or electric ranges available. Sale price of these houses also include a double garage and a completely landscaped lot. Minimum dimensions of lots for all the higher-priced houses are 100 x 120 feet.

Mr. Newell and Mr. Daniel, do not work eight-hour days, five days a week. They put in many more hours per day, seven days a week, just as the great majority of the nation's home builders are doing in 1947, to make a house the best buy for today's dollar in today's market.

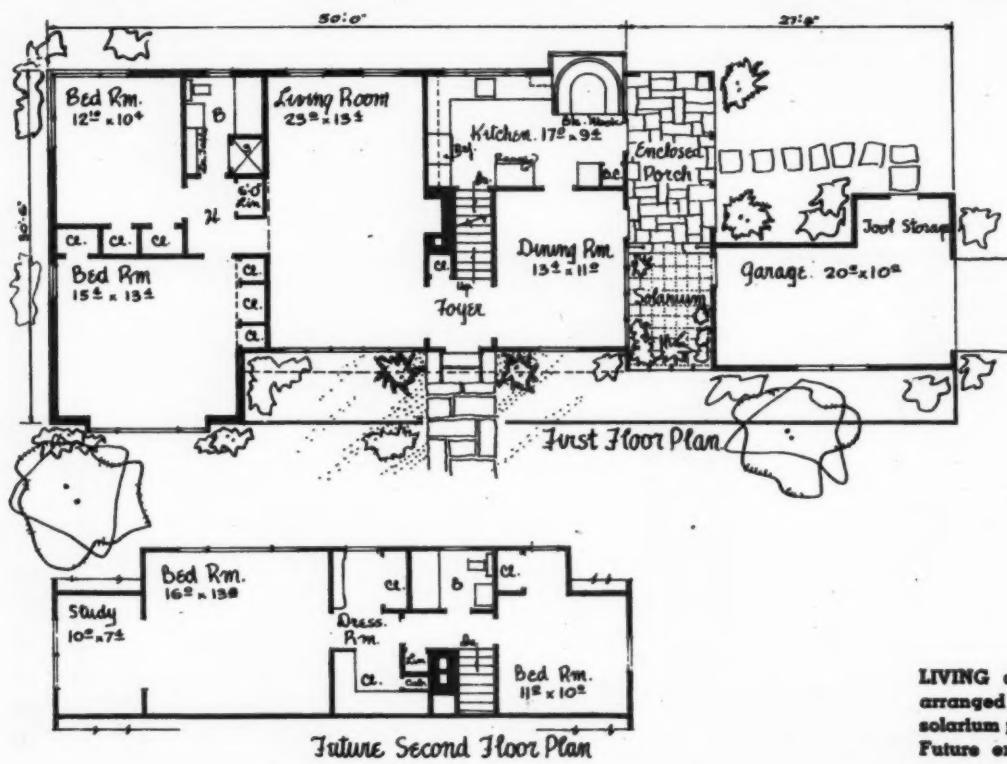
BASIC plan for colonials shown at top of page. Exteriors are varied to lend variety and individuality to each house.



# EAST Houses Best Buy For Today's Dollar



DESIGNED to be constructed of frame with exterior material of wood shingles and field stone laid up in random pattern, this house can by no means be placed in the low cost bracket, yet it is entirely unpretentious.



LIVING comfort is obtained in this well-arranged floor plan. Chief innovation is the solarium placed between house and garage. Future expansion in the attic is possible.



**Pleasant to live in—this house  
“belongs” in any community  
and is typical of a trend**

A SIMPLE and straightforward solution to the problem of housing is found in the attractive house which was designed by Rudolph A. Matern, Architect and Associates, Jamaica, L. I., New York.

This house is not modern in a stylistic sense, but modern as good architecture has always been—that is, suited to the times and to the people using it. This house can be built in any part of the United States and be perfectly in harmony with its surroundings. Houses like this, and similar ones, are being lived in by an ever-increasing number of families. The only reason why a great majority of houses now being built in our country are stiff, formal and unnatural is that many people have not had the opportunity to compare them with houses that encourage informal living.

The architect in this design has captured that elusive quality of warmth and intimacy, desired by home owners. The house has been planned to make life as pleasant as possible by incorporating many of the modern features

and ideas that have been readily accepted by the public. One of the features that is really excellent is the solarium located between the garage and house in the area usually made into a breezeway. Following the contour of the garage roof, the solarium blends itself in perfectly with the over-all design of the house.

Designed primarily for a medium sized family, it nevertheless can easily be expanded as the need arises as shown on the future second floor plan. The main rooms of the house divide themselves on each side of the entrance foyer with living room running the full width of the house. In addition to the dining room, there is a comfortable breakfast nook at one end of the kitchen in which the family may gather informally and at the same time enjoy a view of the garden through the battery of windows that surround it. Complete storage walls may be introduced in the bedroom areas in lieu of closets as indicated. The enclosed porch at end of kitchen and dining room offers an opportunity for outdoor dining.

## The Vincent



FENCE newel accentuates the informality of garage-end of house.



**C**ONTEMPORARY in design, the house shown on these pages was planned for adaptation to a particular environment, and to give an over-all appearance of solidity and sturdiness. To achieve that appearance, the architect, Charles B. Rowe, Park Ridge, Ill., provided adequate fenestration, but used no complete window walls.

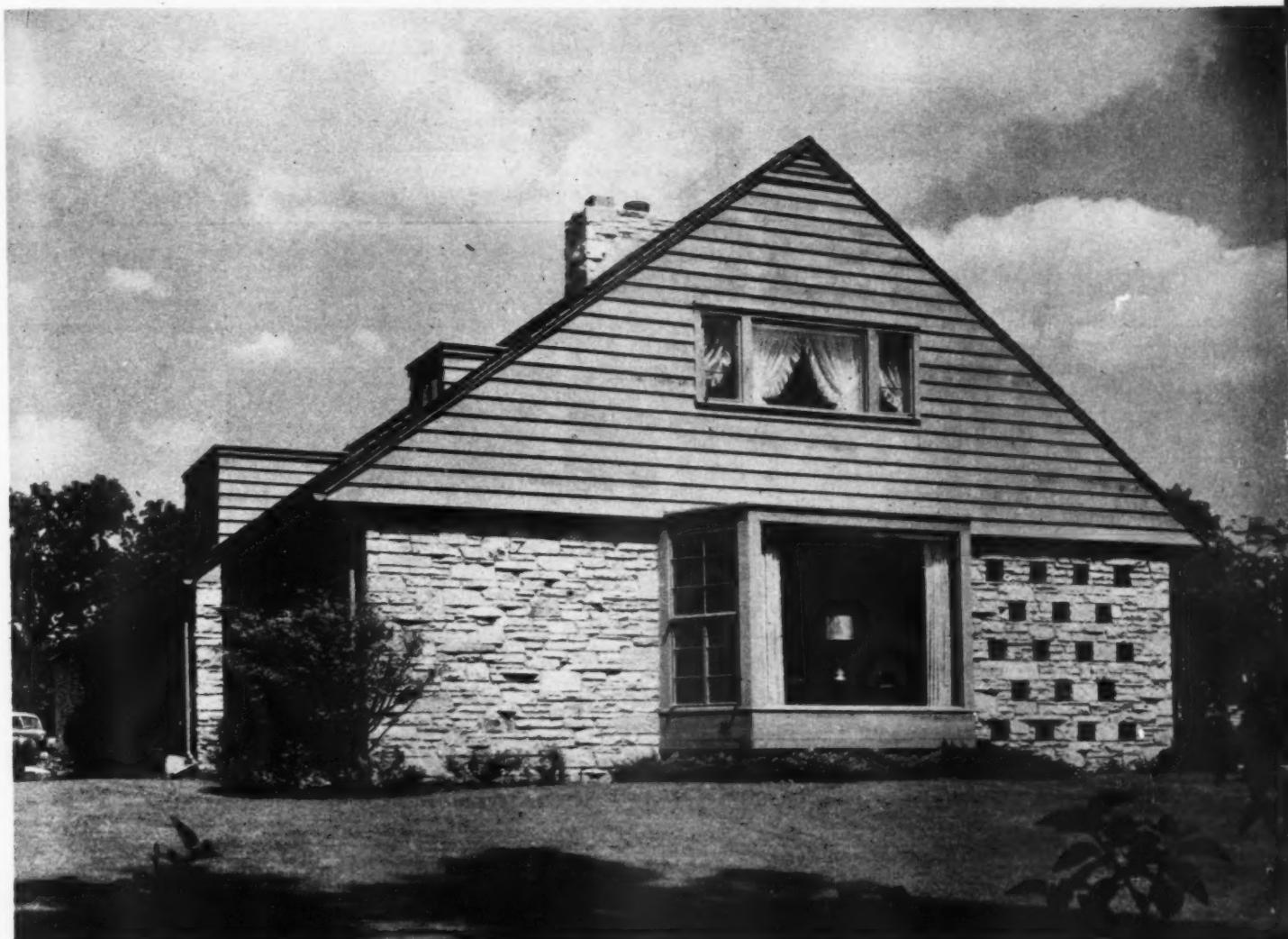
With less glass than is used in most contemporary design which aims at light, airy appearance, and using Lannon stone walls up to the second floor level, Mr. Rowe attained the effect that he and his clients wanted. Ten-inch cedar siding, with the rough surface exposed, was applied above the stone on all dormers and gable ends. The siding was finished with silver gray stain.

The house is located on a wedge-shape lot formed by the diagonal intersection of two streets in Glenview, Ill. One of the streets is a busy highway, and the other a

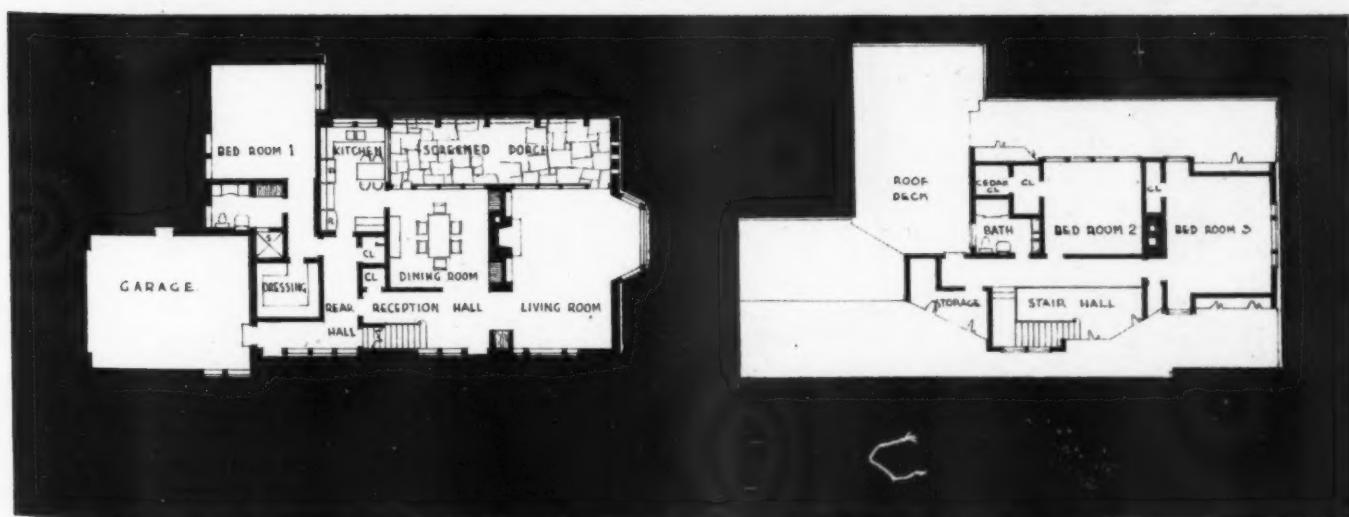
A fine example of Lannon stone in variegated colors is indicated at left. Copper frames and screens are inserted in wall openings.

## Pastors Make a Secure Investment

Informal in plan, simple and unpretentious in design, this house is appropriate and well-adjusted to today's mode of living



SILVER gray green stained siding blends beautifully with stone walls in end view overlooking garden. Bay window is in perfect balance.



ALL facilities for the family's needs are on the first floor, with the second floor primarily for guest accommodations.

relatively inactive side road. To minimize the effect of traffic on the highway, the garage and driveway was placed on that side, with the front facing the side road.

Construction of the house, which was under the complete supervision of the architect, was begun early in 1946. The owners are Mr. and Mrs. Vincent Pastor, who according to the architect, simplified his problem by leaving all of the details of design to him.

A brief construction outline follows: Foundation—concrete; structure (first floor)—solid masonry; (second floor)—frame; floors (first floor)—precast concrete joist over basement area, reinforced concrete slab for balance; (second floor)—frame; roof—24-inch, tapered, redwood shingles; insulation—4-inch Rockwool in ceilings, sealed Balsam-Wool in walls; metal work—galvanized iron for flashings, gutters and leaders; floor covering—carpet, linoleum and tile; bathroom equipment—Kohler Co.; heating—forced warm air, Mueller furnace with modulating controls; glass—double strength window and Thermopane.

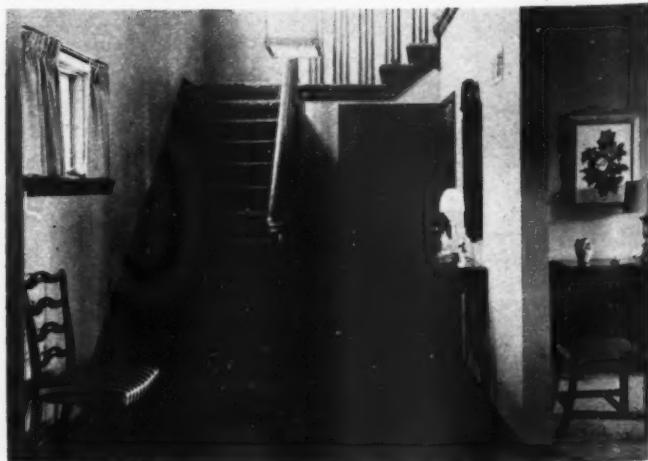
**STONE** pier supports roof overhang, providing shield from sun. Interest gained with sand blasted stenciled pattern on mahogany door.



DINING ROOM commands a view through porch to garden beyond. Sidewall is mostly glass composed of full length windows and doors.



SCREENED porch. An integral part of plan; opening on three rooms.



STAIR HALL open to second floor is wide, spacious and inviting.

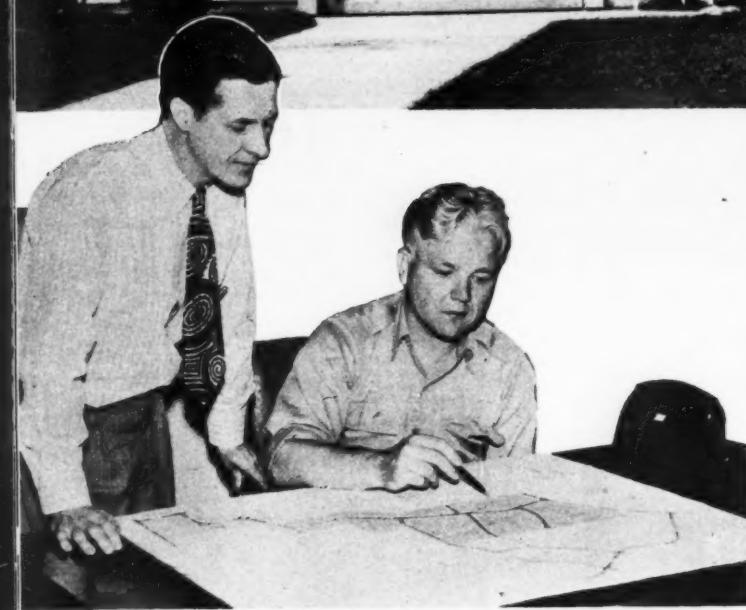


LONG, low sweeping lines which characterize this house, provide a good example of midwestern regional architecture. Street view affords an appearance of solidity through abundant use of weathered Lannon stone.



LIVING ROOM. Large mirror over fireplace mantel reflects the full length windows on the adjoining wall. Ample space for knick knacks is provided on this wall. Note cupboards below.

# "WOODED HILLS"

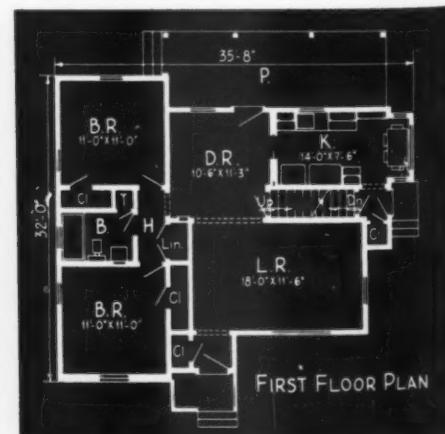


KENNETH S. KEMPE and Milton H. Scheuerman are shown at work.

**Anticipating the market, Scheuerman & Kempe, builders, are constructing these quality homes in the medium cost bracket**

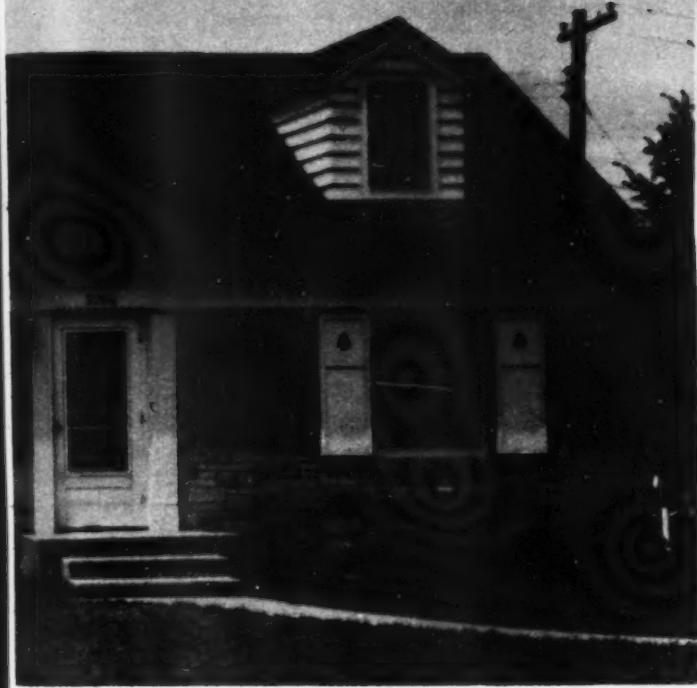
After many years of swinging rights and lefts in order to overcome the many obstacles that arose in the process of building fifty to sixty war houses a year, Scheuerman & Kempe, builders, Rock Island, Ill., are now embarked on the development of some sixty acres of wooded and rolling terrain on the outskirts of the city.

The new development, Wooded Hills, is located in the community's best residential area, and is adjacent to homes ranging in price from \$15,000 to \$50,000. With this as a background the builders proceeded to design and erect the type of house that would conform.



LEFT: Five-room house has good floor layout.

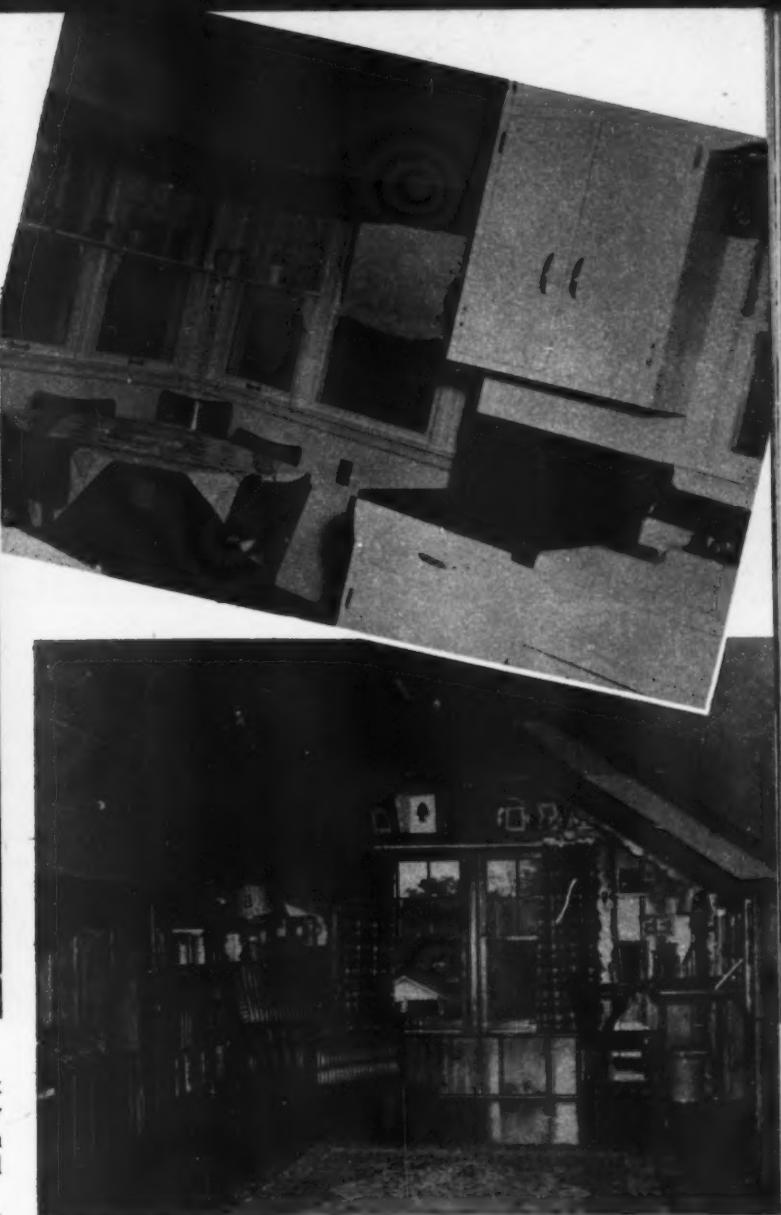
# Values Assured



Starting in late 1945 with the first of the twenty-six homes that now have been completed, they found they were restricted to a \$10,000 ceiling price. Since then with restrictions lifted they have been able to proceed in the manner that they had originally planned.

Avoiding a formal grid pattern on narrow lots which would invite over-crowding, and stereotype design of the houses, Scheuerman and Kempe have created a custom built atmosphere throughout the entire development that causes new purchasers to take definite pride of ownership in their new homes.

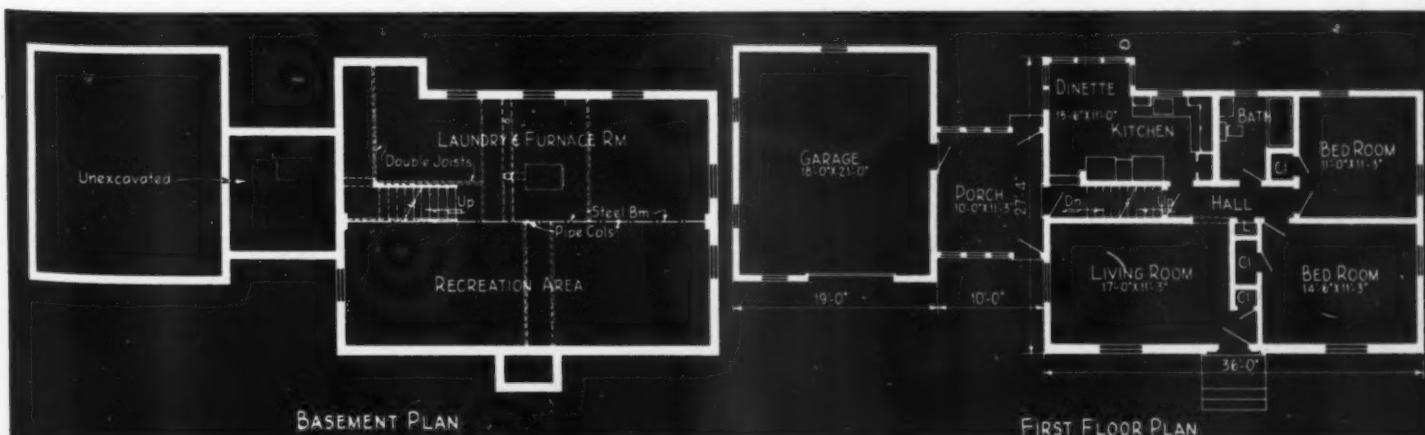
The houses vary in character and design. No two of them are alike. The skyline has been broken with an intermingling of one and two story houses to avoid any appearance of monotony. No attempt has been made to hold religiously to any particular architectural style. All the houses have been designed with the thought of pro-



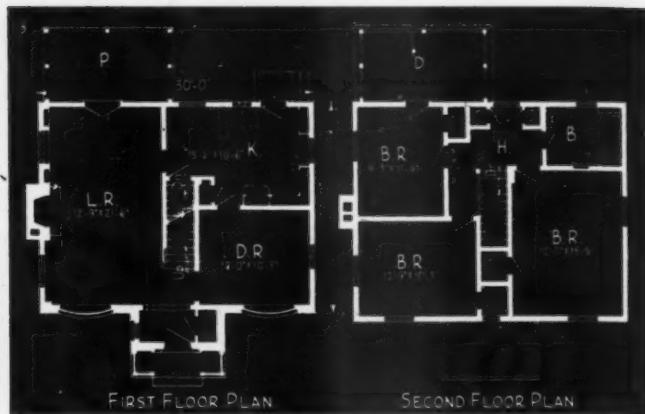
AN interesting combination of exterior stone and siding is shown in the house at left. Portion of dining area is in the kitchen. Built-in bunks are features of a compact bedroom in the attic.

ducing results that would be economically sound, livable and in good taste.

Aiming at quality construction the builders availed themselves of the best materials at their disposal. Glass was used extensively in its various forms. Sixty-inch double drain board sinks with spray are standard equipment in all the kitchens.



BASEMENT and first floor plans of house shown above. Additional rooms may be provided in attic.



THE plans of house at left shown above. Ample space provided for all activities. Two story house at left has interesting details.

Aquella waterproofing was applied on basement walls. Fireplaces are installed in the basement and on the first floor. Dutch doors were installed at both front and rear. A built-in drop leaf table was used in the kitchen. Bathroom walls are of tile. Steel columns and beams in the basement support the superstructure. Outside walls, ceiling and some interior partitions are insulated, and windows are weatherstripped. Gas fired, forced warm air heating was used in all of the houses with heating units located in full basement.

When asked by the *American Builder* about site fabrication methods, Mr. Scheuerman replied: "In a development of this nature it is diffi-

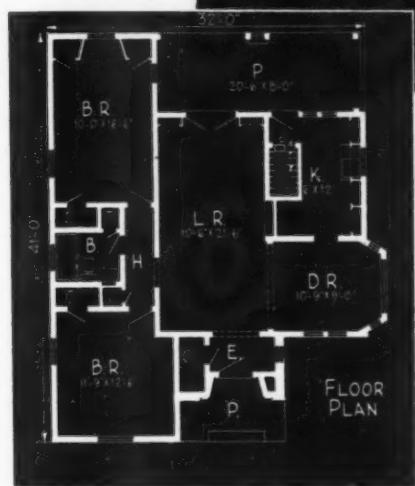
cult to prefabricate to a great extent. A 24x80 foot workshop and storage building is operating at the site with a radial saw, planer and band saw used to fabricate many parts. In this shop we build our own stairs, cupolas, doors, window frames, shutters, screens, porch sections and some cabinet sections. Portable sanders are used by finishing crews that move from job to job. A cement finishing machine is used on walks and basement floors. We find that we can control our work and maintain better workmanship by employing our own mechanics and sub-letting as little work as possible.

"To reduce costs is to do volume building. Volume building entails

an efficient organization. We build our organization around several crews of men that move from job to job as a unit. Footings are poured with ready mixed concrete, after which the masons move in with their gasoline mortar mixer to lay the blocks. They are followed by a crew of three carpenters that frame the house using 8-inch Skilsaws. Another crew of two carpenters shingle and side the house, setting the door and window frames and hanging the combination doors, screens, and erecting kitchen cases. While one man of the fourth crew hangs the door with an electric door router, the other erects the kitchen cases using a power bench saw for cutting and framing.



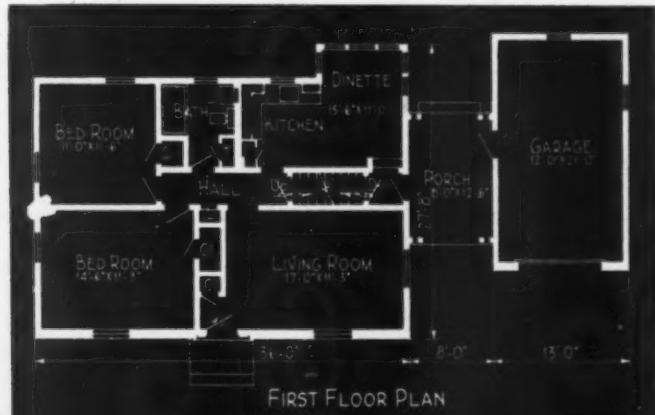
WHAT appears to be a small house from the picture shown at right, is in reality a generous layout as indicated in the floor plan below.



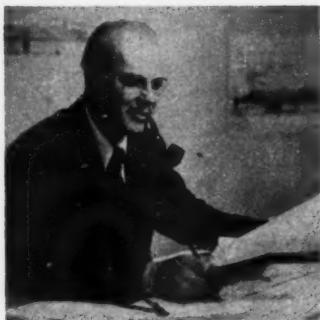
"Our labor turnover has been very slight. This has been due in part to the fact that we stress quality in the construction work that is performed. This has a salutary effect upon the men, in that it causes them to take more interest in their work. They are instructed to do their job well even if it does take a bit more time. Most

men take pride in a job well done, the result is that they are better satisfied and remain in our organization for a longer period of time.

"We have erected and completed the first 26 out of the 140 that are to be built in Wooded Hills Addition. We are constantly watching for ways to improve our construction.



RED brick and red stained shingles on garage walls with white trim present a striking appearance. Plans of house are above.



W. A. WOLLANDER



ALBERT L. LAPIERRE

**W**ITH so much good work now going on, and with so many volume home builders exerting every effort to design and build more value into their product, it is a tough assignment to pick out any one house, or group of homes, as the "best buy" for today's dollar.

The homes of concrete masonry designed by W. A. Wollander of Tacoma and built by Albert L. LaPierre of Budget Homes Inc. and Carroll, Hillman & Hedlund of Seattle in their current developments in the north suburban section of that city are being built at actual contract costs as shown in detail in the table, and of size and construction details as illustrated in the blueprint and photographs.

They are being offered on 25-year Title VI terms at \$500 down payment and \$65 per month:

Analyzing the cost figures, we note that \$630 is for improved lot and landscaping, delux home appliances \$567.19, and the sum of \$1,060.69 for such non-construction items as taxes, loan and insurance costs, selling expense and overhead. These total \$2,257.88; which brings the simple construction cost of these quality houses down to \$5,869.10—really a good buy for today's dollar or *any* dollar!

These houses, rectangular in outline, measure 24 by 61 feet including garage. They are without basements. Walls of Graystone waterproofed concrete block are laid up from 6-by 14-inch footings, poured 16 inches below grade. The ceiling and roof are self-supporting; no bearing partitions. Thus the job is quickly protected and under roof. Then a small tractor bulldozer, entering through the garage door opening, smooths the earth floor and spreads the 6-inch pad of washed gravel which underlies the concrete floor. The copper tubing for the radiant heating system is laid down on the gravel before any partitions are in. This simplifies the work and cuts costs. Asphalt tile is used as the finish floor at a considerable saving as compared with C grade oak flooring.

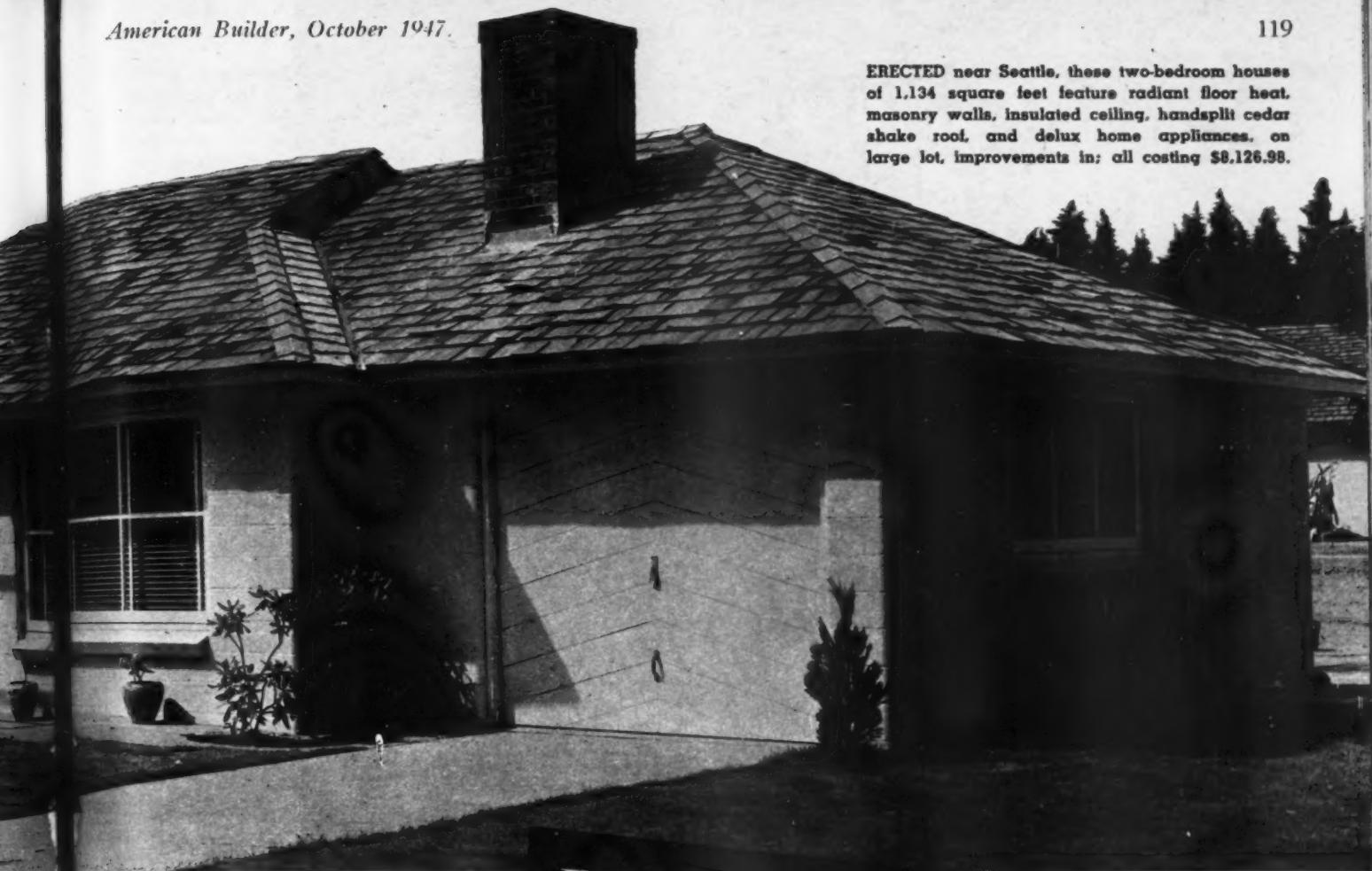
Notice how naturally these low, broad houses of stone hug the site. They grow naturally out of the landscaped lot. Clever use by the designer of wood shutters, flower boxes, and trellises has done much to "warm up" these concrete walls to give them an inviting, domestic look.

Complete labor saving home equipment, located in kitchen, bath and extra garage space, takes the drudgery out of life in such a home.



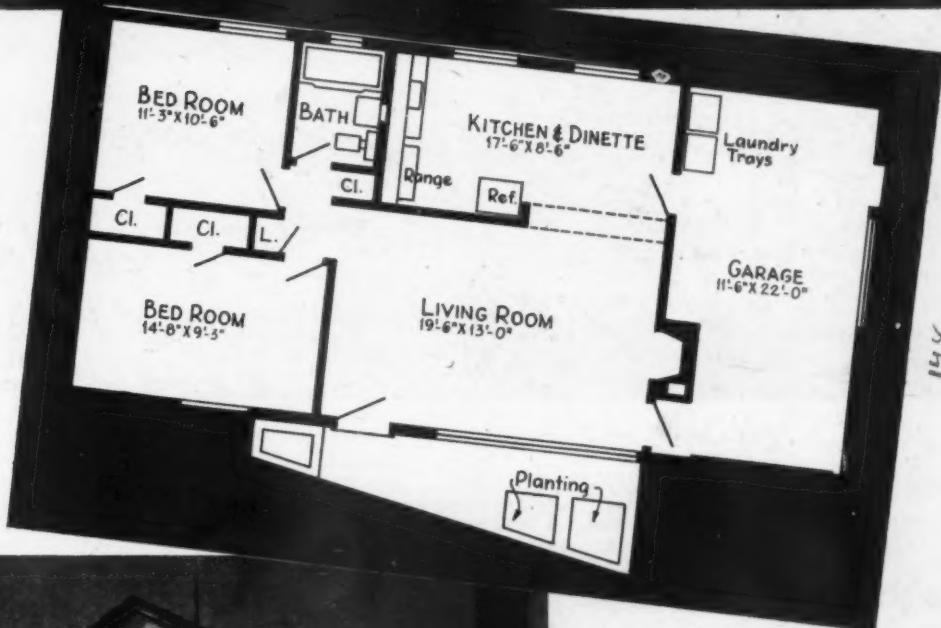
#### Actual Costs—LaPierre's Big Value Masonry Home of 1,134 square feet

1. Survey and engineering	\$ 40.00
2. Architects' fees and blue prints	35.00
3. Building permit	5.10
4. Excavation and backfill	125.00
5. Masonry (labor & materials for walls, fireplace, chimney, flower boxes, 1,100 Graystone waterproofed blocks, 8"x8"x16", laid in walls @ 40c-\$440, other masonry \$230.)	670.00
6. Concrete work (Readymix for footings, floors, walks, drives, terraces, etc.)	353.00
7. Carpentry labor and miscellaneous labor	610.00
8. Lumber (rough and finish including handsplit cedar siding in gable ends.)	475.00
9. Millwork (exterior and interior including cabinets.)	400.00
10. Floors (Kentile colored asphalt.)	190.00
11. Roof, labor and materials (handsplit cedar shingles and zinc coated nails.)	288.00
12. Hardware, Corbin and Yale (\$40), garage hardware (\$16), rough hardware (\$35)	91.00
13. Heating and plumbing, labor and materials, (American Radiator automatic hot water heater, radiant heat from $\frac{3}{4}$ " copper coils embedded in concrete, thermostat control. American Standard plumbing fixtures, automatic water heater. Sewer or septic tank. Excavating for pipes.)	1,450.00
14. Electric wiring, door chimes, fuses	149.00
15. Electric fixtures	25.00
16. Painting (Armor Coat exterior. Interiors wallpapered, trim painted with lead and oil.)	305.00
17. Plastering (2 coats over Rocklath. Sheetrock ceilings.)	412.00
18. Shades or venetian blinds	33.00
19. Tile (Colotile around tub shower.)	20.00
20. Rockwool insulation over ceiling	53.00
21. Water connection	40.00
22. Home appliances (electric range \$109.18, refrigerator \$150.38, Bendix washer \$193.13, Whirlaway clothes line \$12.50, chrome bath accessories \$7.00, Tracy 40-inch stainless steel sink \$95.)	\$567.19
23. Lot (including concrete curb and sidewalk and street surfacing of crushed rock and oil.)	600.00
24. Shrubs and landscaping	30.00
25. Cleaning the house	17.00
26. Taxes (social security, industrial insurance, 3 percent sales tax.)	241.64
27. Loan costs (commission, title insurance appraisal fee, insurance.)	200.00
28. Miscellaneous costs including sheet metal, gravel under concrete slab, weather strip, and other small items	100.00
29. Selling expense	300.00
30. Overhead, supervision and management	302.05
<b>Total Cost</b>	<b>\$8,126.98</b>



ERECTED near Seattle, these two-bedroom houses of 1,134 square feet feature radiant floor heat, masonry walls, insulated ceiling, handsplit cedar shake roof, and delux home appliances, on large lot, improvements in; all costing \$8,126.98.

## Giving the Public What They Want And Can Afford



DESIGNER Wollander and builder Al LaPierre have created lasting worth and comfort in these "Permatherm" homes. Each is a variation based on the standard plan shown above.



LIVING ROOM has a large window with breath-taking view of valley and city below.

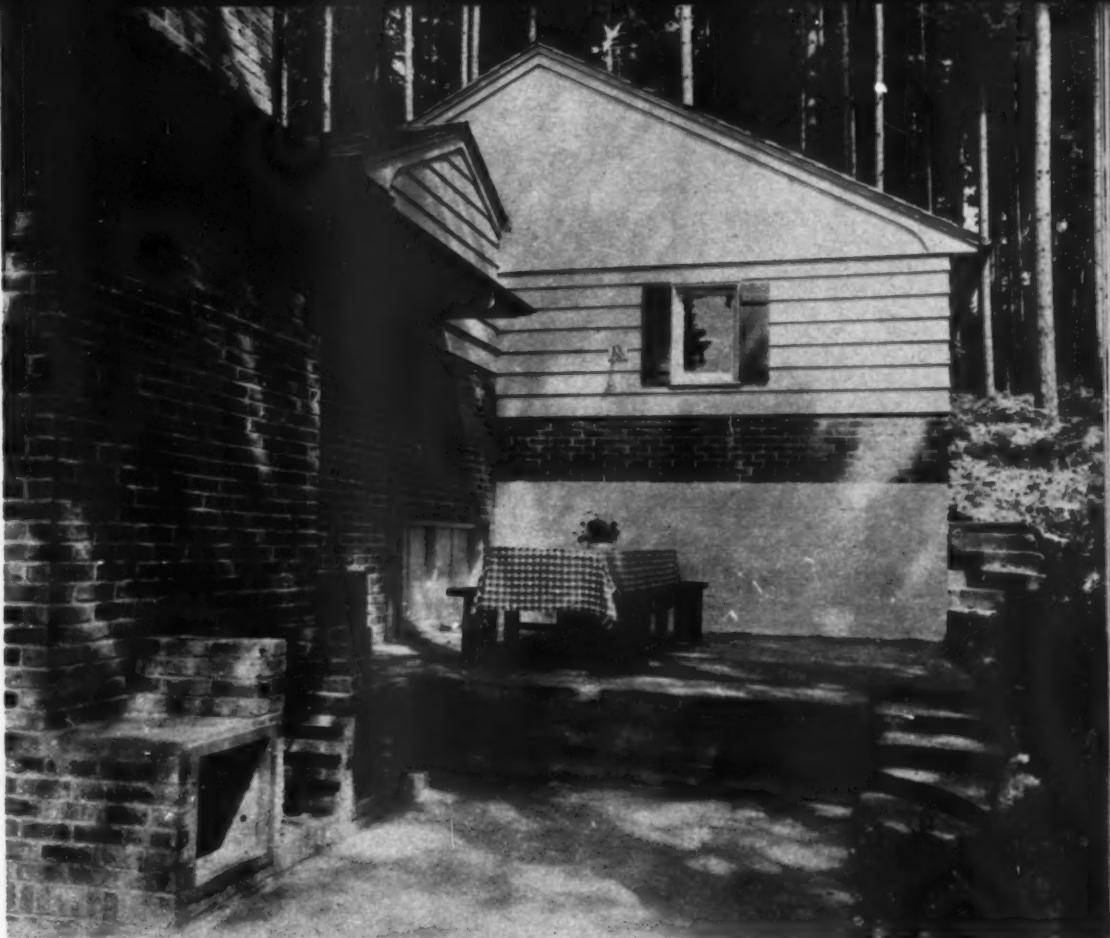
## Thoughtful Planning Produces Dollar Value

**By designing this house in several levels, a factor which led to a number of interesting features, the architect was able to make full use of the existing contours in the planning**

**B**UILT for Don Anderson of Mount Vernon, Washington, this house has taken excellent advantage of a rather difficult site situation. Located on a heavily wooded slope, it affords a splendid view of the valley and the city beyond from the garden side.

The house was of necessity designed in several levels. The handling of these levels by William Arild Johnson, A.I.A., and Associates, Everett, Washington, reveals thorough familiarity with this type of residential design. The garage and street entrance at the intermediate level open into a stair-landing foyer which leads either to the top-floor bedrooms or down to the living quarters. Below the entrance foyer, there is provided a large space for storage of supplies and equipment for outdoor dining on the terrace adjoining the garage. Doors on the outside wall make it accessible to the terrace.

LIVING room and garage side, shows the pleasures of outdoor dining which can be enjoyed on the cement terrace, shaded from the sun by a thick growth of pines. Cooking facilities are provided by an outdoor grill built into outside wall of living room fireplace. Supplies and storage space are provided in the storeroom at the left of bench and table. This level is below the main entry.



ENTRANCE side of the house shows the clever handling of the different levels. Built on three different planes, the house nevertheless makes full use of the surrounding property with outside entrances to the garage and living room floors.

The plan in many respects is rather unique. Giving the impression of rambling, the house is limited to a comparatively small area. Rooms are not over-large, yet there is plenty of space. All the rooms have been planned with good furniture placement in mind. The house, because of generous fenestration, seems to

make the surrounding views a part of the interior of each room, yet the solid walls of the house give a sense of privacy and comfort.

The concrete foundation follows the slope of the ground. Walls are finished in an attractive arrangement of brick veneer, stucco and siding. The roof is covered with heavy wood shales.

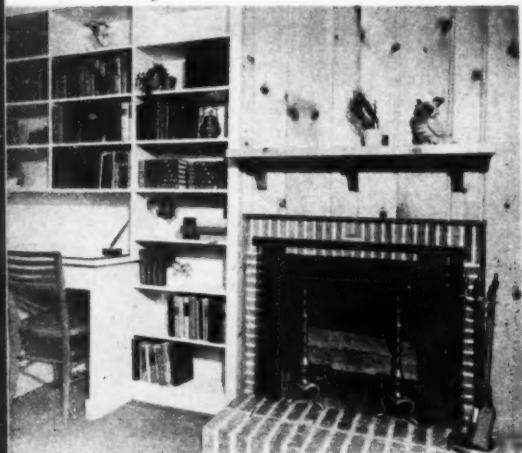




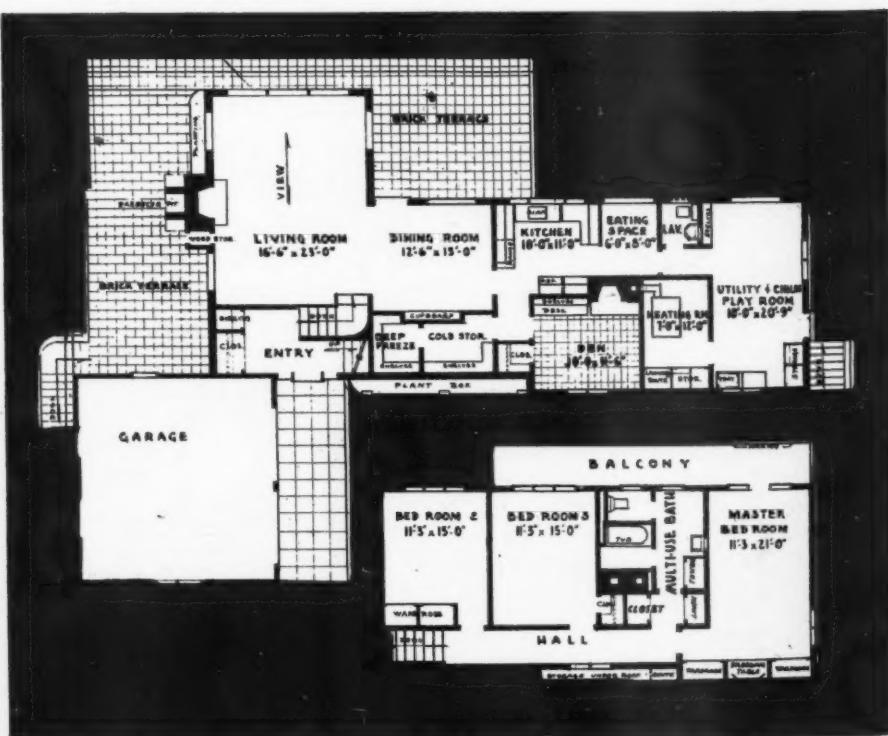
The first floor is a concrete slab with embedded sleepers which is laid with wood floor or asphalt tile. The main bathroom is departmentalized.

The house is lavishly supplied with closets and built-ins of all kinds. Off the kitchen is a cold storage room with walk-in freezer. It is completely insulated with Kimsul. Heating is by hot water and convectors. This house was built to sell for \$15,000.

THE pride and joy of any man's heart is the den, complete with fireplace, knotty pine over-mantel and built-in conveniences. Floor plan (right), gives the impression of rambling, but is really most compact.



THE garden side of the house is located so that the main rooms take advantage of the view down the valley. Windows throughout are over-large, permitting the surrounding landscape to become a part of each interior. A fine sense of balance has been established on this side through the relation of the living room wing to the overhanging balcony and garage.





IN THE living room, a touch of warm color is provided by the dark red roman brick used in the fireplace and the blond-finished birch plywood that surrounds it. Full length windows are used extensively to bring the out-of-doors inside. Soft tinted walls and ceiling contrast with the dark colored wall-to-wall floor carpeting.



KITCHEN and eating space are combined as one, though separated with counter and cupboard. This arrangement provides the means for informal eating that should be a "must" requirement for houses of reasonable size.

# SOUTHWEST

## Houses Best Buy For Today's Dollar



ROOF is covered with 1x12 rough redwood boards in 4-foot lengths fitted to rafters with 2-inch lap joints.

### Dry Wall Construction Popular

**This builder, like many others in the south and southwest, is delivering quality houses with dry wall methods. Joe Whitman's unusual houses are meeting with good acceptance by local buyers**

**J**OE WHITMAN is a staunch advocate of dry wall construction. He doesn't use it to save money but to build walls faster. The attractive home pictured here is an example of the care and fine workmanship used in the Whitman houses.

The Weldtex used on the walls of the living room and bedrooms is applied with such care that the separate panels are not discernible—they present an unbroken expanse of wall. In the living room three walls are finished in a natural color glaze, while the fourth is painted a chocolate brown. The Weldtex is weld-glued and nailed to studs on 16-inch centers. Mr. Whitman makes his own doors with Weldtex and stains them in contrasting colors with the other surfaces. The small mouldings around the openings are flush with the walls.

The ceilings are built of plywood panels with the edges slightly rounded and butted together. The joints show, but present a pleasing appearance—much more so in Whitman's opinion, than if batten strips were used in an endeavor to hide the joints. Of course, the nails on both walls and ceilings are carefully counter-sunk, and the holes filled.

High casement windows in the bedroom insure privacy and on the front wall permit additional storage space underneath. A flower box sets over the cabinets on the outside. The back wall of the bedroom is papered over plasterboard—which is the third type of dry wall material used in the house. Sliding doors to the wardrobe are made with Weldtex. Mr. Whitman suspends his doors on a track with a roller made by the Harvey Door Slide Co. of Miami, Fla.

The bathroom is striking in appearance because of the unusual material and design. The walls and floor are made of Dianto, a composition material which combines



THREE types of dry wall finishes are being used in these houses.

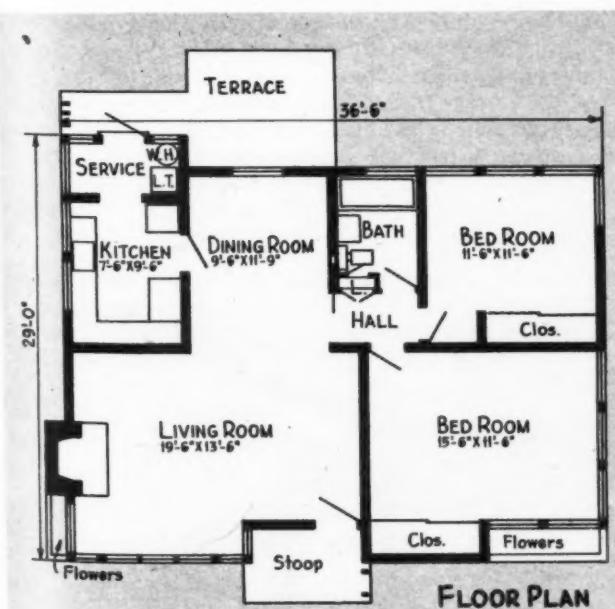


THE dry wall panels used here were so applied that separate panels are not discernible.

diatomaceous earth with other more common ingredients to produce a plastic with exceptional lightness, strength, durability and attractiveness. It is waterproof, vermin-proof, non-combustible; comes in many colors. It is set cold. The cost is considerably less than that of tile.

Mr. Whitman takes great pride in the Redwood board roof which he personally designed. He used 1 x 12 inch rough boards cut into 4 foot lengths. The rough resawn surface is exposed. The boards are detailed to fit snugly on the rafters and to allow a 2 inch lap joint. It is not advisable to use such boards except on a six-to-twelve pitch. An aluminum clip is applied over the joints.

JOE WHITMAN holding one of the patented sliding door rollers. The sliding wardrobe doors are made of Weldtex and move freely.



TYPICAL floor plan of an unusual but popular Whitman house.



HIGH casement windows shown here insure privacy in the bedroom.



SIXTEEN houses of this style and size have been constructed by this designer and home builder.

## Tomorrow's Homes Today

**"For convenience and pleasant living" is the slogan of H. A. Schwilck, San Bernardino, Cal.**

**H.**A. SCHWILCK, designer and builder of San Bernardino, Calif., has a group of 16 "Homes" there which certainly measure up to his slogan. He doesn't want to build houses—only "Homes."

Mr. Schwilck has some very definite ideas about building. To him a home must be more than a shelter, more than a beautiful place to live—it must be functional—built with the housewife's duties and problems in mind and with the comfort and convenience of the whole family as one of the prime considerations. To accomplish these objectives Schwilck does not hesitate to depart from the conventional where such departure is definitely a step in the right direction. Living quarters in the rear, is an example.

Flat or low sloping roofs is another example. Mr.

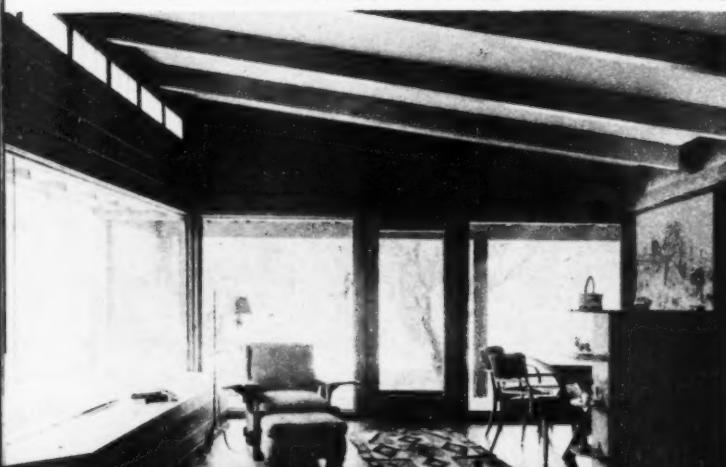
Schwilck uses 4 x 8 inch wood beams to support his roof and applies one and nine sixteenths-inch Cemesto panels over them as his combination ceiling and roof. A built-up roof is put over the Cemesto. The under side is painted or textured.

Some people believe that a flat roof makes the house hot in summer. On a recent day when the temperature was 105 degrees Mr. Schwilck had open house at one of his models and he states that practically every visitor remarked about the coolness of the house.

The Schwilck homes have a combination living and dining room with sloping ceiling with the beams exposed. Floor to ceiling windows look out on the patio and garden. The dining space is separated from the living area by an attractive cabinet with shelves for dishes, etc., on the dining room side. A built-in seat near the window eliminates the need for two or three dining room chairs; another built-in bench on the opposite side of the room serves as storage space and provides seats for guests when there is a house full. The floors are of concrete, acid-stained. Carpeting, asphalt tile, rubber tile, or cork are applied over the concrete if desired.

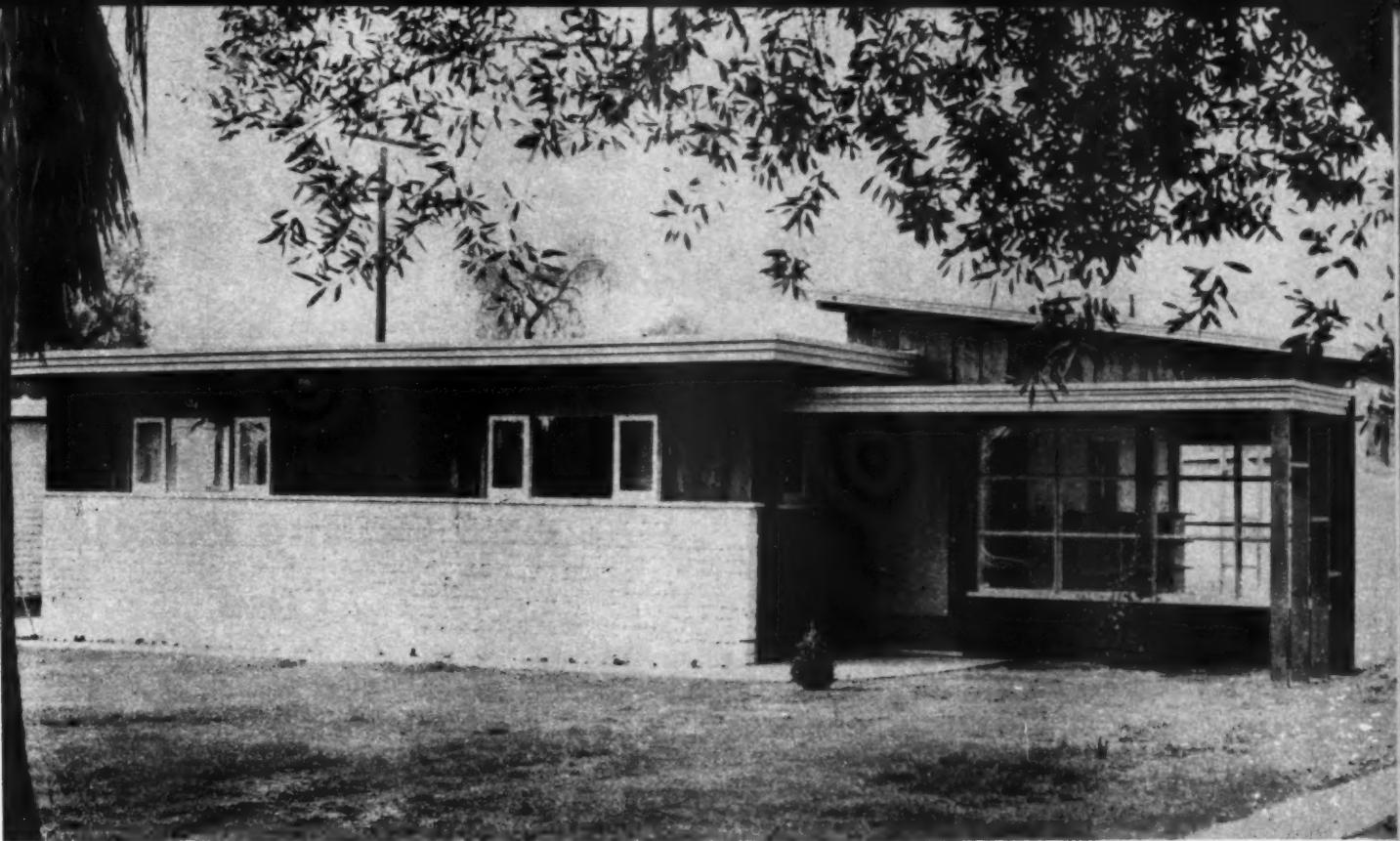
Indirect lighting is in troughs overhead. Woodwork

**EXPOSED wooden beams support the living and dining room ceilings.**



**HIGH windows on street side insure privacy and adequate light.**





**DEPARTURE** from the conventional places living quarters at the rear for privacy and quiet.

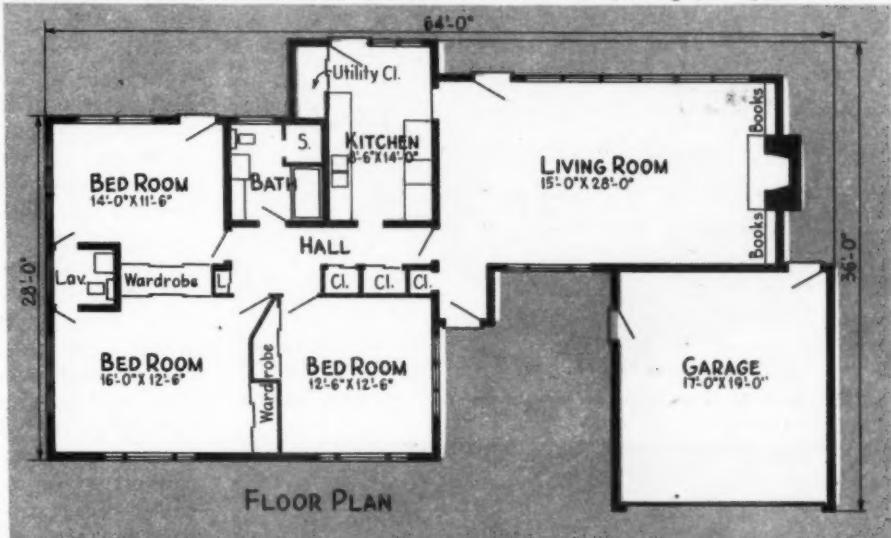
is in natural and antique finishes which do not show soil so quickly and are easier to clean. Casement windows are used. An attractive fireplace reaches to the ceiling. High windows permit placement of furniture underneath and also provide privacy.

The kitchen is a housewife's dream with its double sink, loads of cabinets, shelves and work spaces. Perhaps the most attractive feature is the breakfast bar looking out into the patio. Kitchens are equipped with exhaust fans and electric garbage disposal units.

The bedrooms have the same generous storage spaces as the other rooms. In the master bedroom the clothes closet is 12 feet long and from floor to ceiling. High windows on the street side insure privacy and make it possible to place beds beneath them.

For his exteriors Mr. Schwilck uses concrete blocks with redwood paneling for decoration. He completely encloses the rear yard with a high concrete block wall. This makes a safe place for children to play and with the kitchen looking out into the yard the housewife can keep her children in view while she is about her work. A flagstone patio with lattice-work overhead makes a pleasant setting for outdoor furniture and a delightful place for outdoor living.

These three bedroom houses contain 1250 square feet (which most people guess at 1400 sq. ft.) of living space and with two-car garages also built of concrete blocks, are selling currently for \$13,500.



THESE 1,250-square foot three-bedroom houses sell for \$13,500.  
Houses are varied. Photos and plan here are typical examples.



# Engineered House Construction

## Radiant Heating With Hot Water Floor And Ceiling Panels

By J. L. Shank

Consulting Engineer

**R**ADIANT HEATING! What is it? How does it work? How is it installed? What are the advantages? These are just a few of the questions being asked daily about a method of heating which is as old as the sun or man-made fire. One might ask, if radiant heating is this old, why is it known as the modern method of heating. The answer could be, man has just discovered that radiant heating is essential for his comfort and well being, and is learning how to apply and control this type of heat to obtain comfort.

Perhaps it might be well to find out what radiant heating is and how it works. The earth is warmed by the radiant heat rays from the sun. All living things grow and develop under the influence of these stimulating rays. Without them the earth could be cold, barren, and without life. The radiant heat rays given off by the sun are very much like light rays. They travel in a straight line and are absorbed or reflected depending upon the surface of the material with which they come in contact. Radiant heat rays pass through air without raising the temperature, and as an example, the radiant heat rays from the sun pass through the earth's outer spaces which are extremely cold before they reach the earth, yet when they meet the solid objects on the earth they warm them. Radiant heat rays, like heat by convection or conduction, move from a warmer to a cooler object, and upon coming in contact with a cooler solid surface, are either absorbed or reflected. The absorbed rays heat the surface of the solid into which they come in contact, thereby causing it to become a radiant surface and to re-radiate heat rays.

An understanding of radiant heating is essential in order to learn its advantages to human comfort. To most persons, air temperature is the governing factor as to whether or not they are comfortable. However, it is entirely possible to be in a room whose air temperature is 85 to 90 degrees Fahrenheit, and still feel cold. This is possible where the surrounding wall surface temperatures are considerably below the body surface temperature, thereby causing the body heat to be dissipated quite rapidly. It should be understood, then,

This is fifth in the current series of articles on engineered heating systems. The ceiling radiant panel system detailed here was planned for the Anicka-designed house used in previous articles. The house was featured in the March, 1947, issue



BOILER may be same type as for conventional automatic system.



WHERE copper pipe is used it is imbedded in the plaster as shown.

that body comfort is not the question of supplying heat to the body, but is instead, the matter of how the body heat is lost and at what rate.

The air we breathe, and the food we eat, generate a considerable amount of body heat. As a matter of fact, it is in excess of what is required for comfort and must be dissipated. Therefore, if the surrounding conditions are such that we release the heat too rapidly, we feel cold. Likewise, if it is disposed of too slowly, we feel hot. It might also be said that the body heat is lost in three ways. One, by radiation; two, by convection; and three, by evaporation. The loss by radiation takes place by the body giving up heat to cooler objects. The loss by convection takes place by air moving over the skin or clothing.<sup>1</sup> The loss by evaporation takes place by vaporizing the moisture on the body surface. According to scientific tests the principal losses of body heat are by radiation and convection. It is, therefore, essential that a proper balance be maintained between the radiation and convection heat losses in order to provide the correct comfort condition. If the balance is too much one way or the other a person will be either too warm or too cold.

The body does have the ability to adjust itself to varying temperature conditions. If, for example, the air in a room is 85 degrees Fahrenheit, the body heat loss by convection would be considerably less than if the room air is 70 degrees Fahrenheit. However, the loss by radiation could be greater in a room whose air temperature is 85 degrees Fahrenheit than in the room where temperature is 70 degrees Fahrenheit. It might be well to note, though, that the surrounding surfaces will necessarily have to be at a lower temperature with an air temperature of 85 degrees Fahrenheit than they would be with an air temperature of 70 degrees Fahrenheit, in order to maintain the proper balance of body heat loss. This, then, leads to the fact that if the surrounding surfaces in a structure are heated, the radiant heat loss from the body will be controlled, and it will be possible to set up a comfort condition with an air temperature of as low as 60 degrees Fahrenheit. This low air temperature, of course, is brought about by maintaining the balance in the body heat loss.

The heat loss in a building might be classed with the convection heat loss from the body. The higher the air temperature in the structure, the more rapid the rate of heat transfer. This can mean just one thing—higher fuel costs. As an example, if it is necessary to maintain an air temperature of 75 degrees Fahrenheit in a building to obtain the proper comfort condition, so many dollars worth of fuel will be consumed to maintain this condition. However, if it were possible to maintain a comfort condition with an air temperature of 65 degrees Fahrenheit in the same building, the rate of heat loss would be less. Consequently the dollars worth of fuel consumed would be less.

The actual cost of a radiant panel heating system should be very little, if any, more than the cost of a conventional type heating system. The actual material cost is comparable to the material cost of a forced warm air, forced hot water, or a steam heating system. If the installation is handled by a heating contractor familiar with radiant panel heating, the labor should cost no more. This, then, should result in a final cost that is competitive. There is one thing, however, that has not been mentioned, and that is the temperature control system. If the same controls are used for the radiant panel heating system as those used with other automatic heating systems, the initial costs should be similar. However, a more elaborate and expensive control system is usually required to achieve the extra results expected of radiant heat. This, then, directly affects



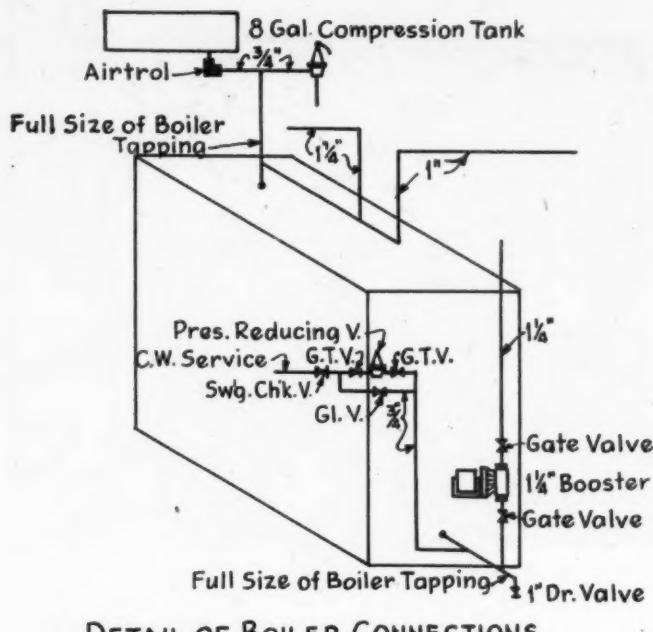
PIPING is imbedded in slab for floor panel heating installation.

the cost of a radiant panel heating system, and will mean that the cost will be from ten to twenty-five per cent higher than the cost of a heating system of the conventional type. The over-all picture will result in a slightly higher initial cost, but a less annual operating cost. The operating cost will absorb the additional initial cost within a few years.

It is possible to maintain a uniform temperature condition throughout a building by the use of a radiant panel heating system. In the convectional heating system, an attempt is made to warm the structure by convection heating (warm air or convectors) or by the combination of convection and radiation (radiators) heating.

This can mean but one thing—with a conventional heating system, high temperature air is being moved into the room or structure, and warm air being lighter than cold air, will be near the ceiling and the cool air will remain near the floor. The condition does not exist with radiant panel heating regardless of whether the panel is the floor, wall, or ceiling. The heat rays from the panel are the same as heat rays from the sun, passing through the air and warming the solid objects with which they come in contact. In many radiant panel heating installations, the difference in the temperature of the air between the floor and the ceiling is only two degrees Fahrenheit. It might also be said that this holds true regardless of the ceiling height and the location of the panel, within certain limitations.

Many times the question of humidity arises. Will the humidity be such in a building heated with radiant panel heating, that the air will be dry and cause furniture to fall apart? The subject of humidity was covered in previous articles. However, it should be stated once again that the only reason that it is necessary to supply additional moisture to a building when it is heated, is due to the fact that when air, such as is in a room, is heated, it expands. If this expansion is great, such as is experienced in a warm air or steam heating system, the air will grasp for moisture, and if it is not supplied by a mechanical means, a very uncomfortable condition will result. In the majority of localities within the United States, the humidity, with the exception of two to ten days in each heating season, is much greater than that required for comfort conditions. However, with the use of radiant panel heating, the air temperature remains low and expands very little, if at all. Therefore, only a slight amount of additional moisture will be required to maintain the proper comfort condition. The vapor coming from the hot water used in bathing and



DETAIL OF BOILER CONNECTIONS

washing, plus the steam vapors from cooking, will amply take care of whatever additional moisture is required to maintain proper humidification.

Radiant panel heating is clean, and unusually so when compared to the conventional heating system. In a structure heated by a conventional type of heating system, the air movement in rooms is usually quite pronounced, whether due to thermal air circulation or by the forced circulation of the air. This air movement picks up dust particles, dirt, and lint, and deposits them on the walls, ceilings and drapes. Tests have proven that dust and dirt will deposit themselves very readily on cold surfaces. Since these surfaces are usually the outside walls, windows and drapes, with a conventional type of heating system, they become natural dirt collectors. This is quite a contrast from the condition which exists in a building heated with radiant panel heating, where there is a large area of low temperature heating surfaces which induce very little air movement, plus the fact that all of the room surfaces are com-

paratively warm, thus affording very little attraction for the deposit of dirt. Consequently, cleaning and decorating expenses will be held at a minimum where radiant panel heating is installed.

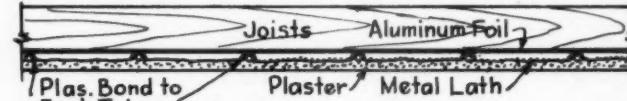
During the past four or five years, there have been many articles written on radiant heating, some of which have been excellent. However, there is a considerable difference in writing about a heating system and actually designing and installing one. The balance of this article will deal with the correct design and installation of a radiant panel heating system. Up until now, a radiant panel heating system has been tailor-made to fit the structure into which it was installed, and until more data is available, it will remain so.

As in previous articles, the radiant heating panel system presented here is designed for the standard two story Colonial residence presented by Walter T. Anicka, architect, Ann Arbor, Mich. The heat loss calculations are based on an inside temperature of 70 degrees Fahrenheit, except the bathroom which is figured on an inside temperature of 80 degrees Fahrenheit, and with an outside temperature of 10 degrees below zero.

The heat losses are based on a first floor wall construction of brick veneer, 25/32 insulating board sheathing, studs and plaster on gypsum lath. The second floor

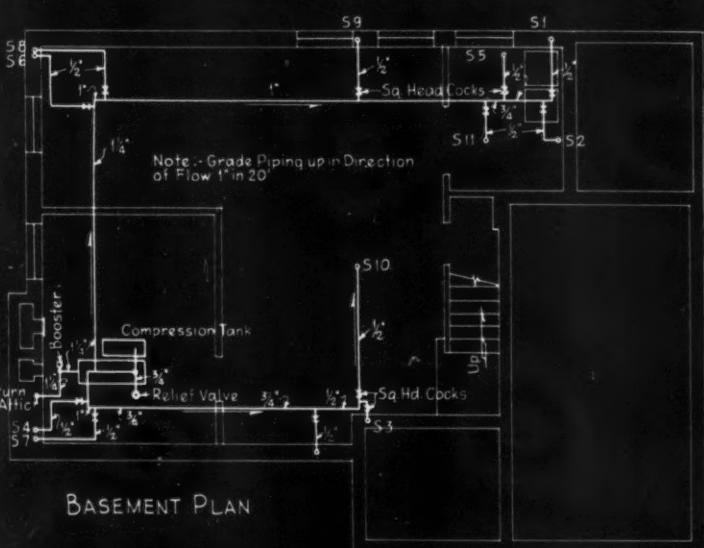


SECTION THRU CEILING USING COPPER COILS

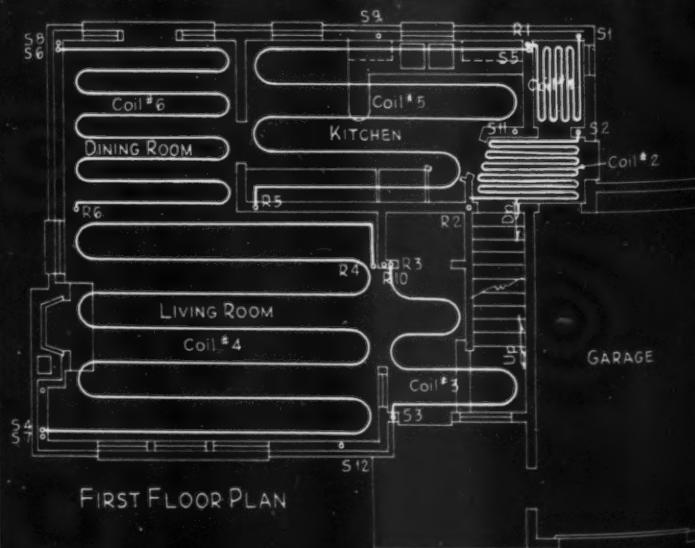


SECTION THRU CEILING USING IRON OR STEEL COILS

wall construction is of wood siding, 25/32 insulating board sheathing, studs and plaster on gypsum lath. The windows are figured as double hung wood sash without weather stripping or storm sash, and the infiltration is based on between average and poorly fitted. Since the panels are figured to be installed in the ceilings, no heat loss is figured through the second floor ceiling. However, in the installation, aluminum foil is used in



BASEMENT PLAN



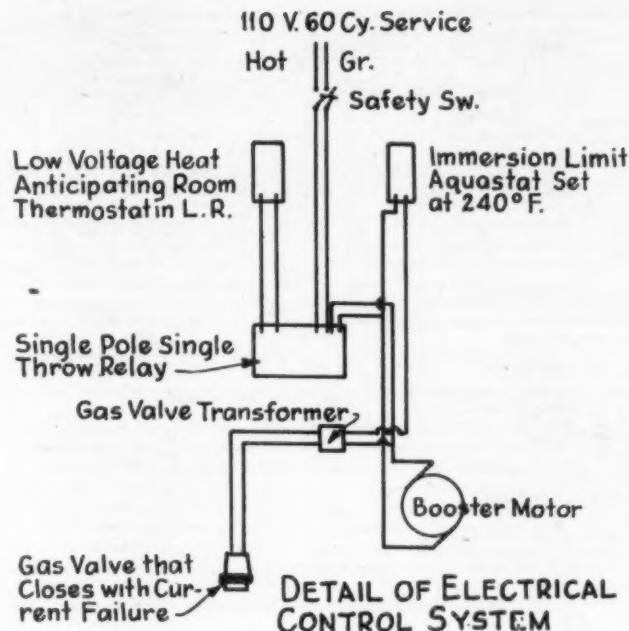
FIRST FLOOR PLAN

DETAIL of piping in basement and first floor for hot water radiant heating system in this Anicka-designed house.

backing up the panels with metal lath and copper pipe imbedded in the plaster. This is shown in the detail for coil installation. In addition, a fill of mineral wool  $2\frac{1}{2}$  inches thick is used between the joists in the second floor ceiling.

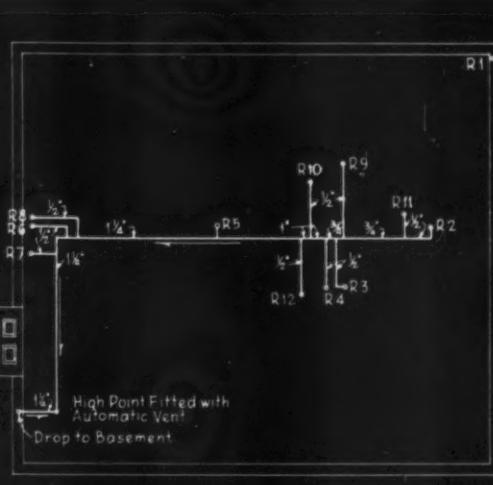
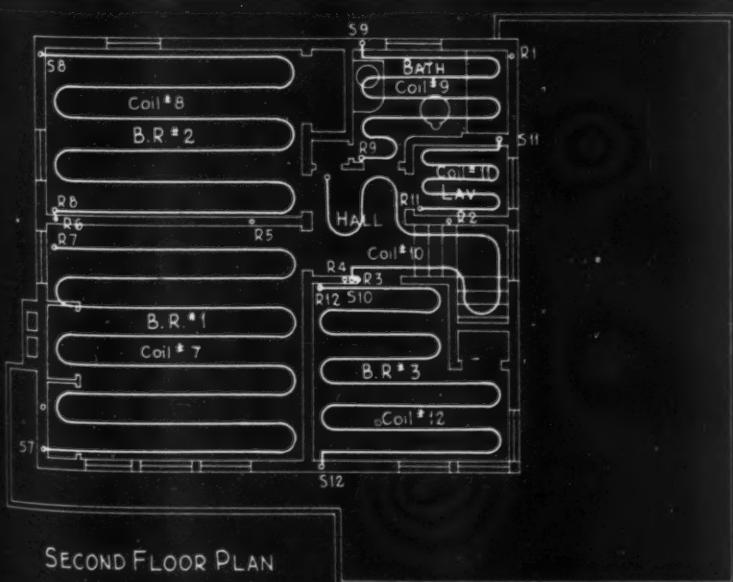
It was decided that the heating medium would be hot water, by necessity. Also that the boiler would be gas fired using a simplified control system, such as is used with any conventional automatic fired heating system. The controls consist of a heat anticipating room thermostat, a relay and an aquastat. Should the room thermostat call for heat, the booster pump would start and the gas supply valve would open. Then when the room thermostat is satisfied, the booster pump would stop, and the gas supply valve would close. The high limit aquastat is connected into the control circuit so that should the water temperature in the boiler reach 240 degrees Fahrenheit, it will open the control circuit to the gas valve, thereby permitting the valve to close, preventing overheating and injury to the heating system.

The heat losses are calculated in the same manner as for the conventional type of heating system. However, additional calculations are required in order to obtain the true over-all picture. All of the calculations are set forth in the calculation sheet data. After calculating the heat loss in each room, the total surface area exclusive of the heating panel, is figured. Then the average surface temperature for each surface is obtained from charts and graphs. By multiplying each surface area by the corresponding surface temperature, the total surface temperature is obtained. Then by dividing the total surface temperature by the total surface area, exclusive of the heating panel, the M.R.T. (mean relative temperature) is obtained. By adding the M.R.T. and the room air temperature together, and then dividing by two, the M.E.T. (mean effective temperature) is obtained. By taking the total B.T.U. (measurement of heat) heat loss in each room and dividing it by the square foot of panel area, the B.T.U. emission rate for each square foot of panel is determined. Once again, using charts and graphs, by taking the M.E.T. in each room, and the corresponding B.T.U. emission rate square foot of panel for the room, it is possible to determine the surface temperature of each panel. Now once again using charts and graphs, and by taking the maximum panel temperature, and the maximum water temperature (185 degrees Fahrenheit



for this particular installation), the tube spacing is determined.

It might be well to explain at this point just what has been accomplished, and why. The graphs and charts referred to, are those shown in the Guide published by the American Society of Heating and Ventilating Engineers, Chase Radiant Heating Manual, and in other handbooks and technical papers. The maximum water temperature of 185 degrees Fahrenheit is determined by the average maximum panel surface temperature of 175 degrees Fahrenheit, this being the room requiring the highest surface temperature, and by taking a 20 degree drop in the water temperature. According to the standards of good practice set up today, 115 degrees to 130 degrees Fahrenheit is considered the maximum surface temperature permissible. In this particular installation, however, the exception has been made, inasmuch as the maximum surface temperatures occur in the first floor lavatory and entry. Should these extreme surface temperatures occur in living rooms, bedrooms, etc., pro-



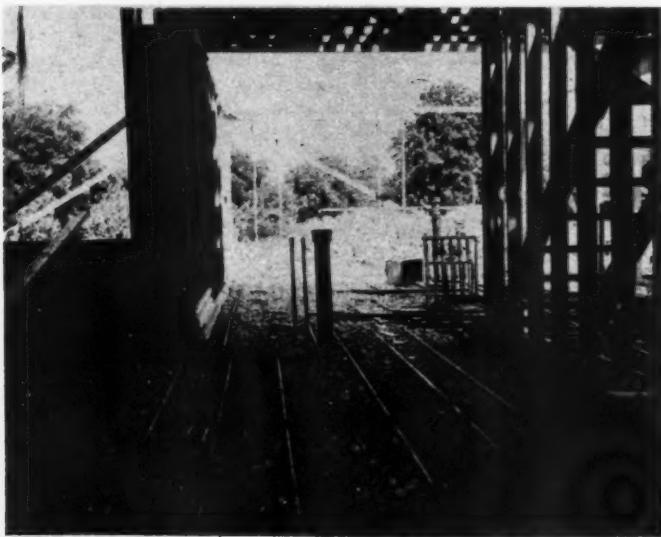
FIRST FLOOR CALCULATION SHEET																			ENTRY													
ROOMS		RECEPTION HALL						LIVING ROOM						DINING ROOM						KITCHEN			LAVATORY									
	Factors	Exposure	B.T.U.	Area Sq. Ft.	Surface Temp.	Surface Temp.	Exposure	B.T.U.	Area Sq. Ft.	Surface Temp.	Surface Temp.	Exposure	B.T.U.	Area Sq. Ft.	Surface Temp.	Surface Temp.	Exposure	B.T.U.	Area Sq. Ft.	Surface Temp.	Exposure	B.T.U.	Area Sq. Ft.	Surface Temp.								
Infiltration	Windows, 1/2 Doors	1.42	28	2270			48	2770				39	1720			34	1900			15	700		29	2270								
Total Outside Exposed Wall		184			272					100						125				64			40									
Glass	1.13	38	3250	36	15	540	64	5700	64	15	360	39	3620	30	15	585	24	2100	26	15	380	7	1175	7	15	315						
Net Outside Wall	.29	68	1885	68	58	3850	286	2330	286	58	12860	121	1835	121	58	7000	104	1085	104	58	6060	57	910	57	68	2310	19	58	1180			
Inside Wall	40	48	70	2800	88	96	70	6720	88	96	6000	70	6400	70	96	280	70	29100	64	84	70	4400	125	70	8900							
Floor	.10	63	63	70	2710	243	243	70	17010	100	100	100	70	7000	133	70	9210	16	40	16	60	930	24	36	24	66	1585					
Ceiling	.10	63	63	53		243				100		100		100		100		100		100		100		100		100		100				
Total B.T.U.			2335					11800					9455				5705				3600				4605							
Total Area Less Heating Panel		187				611				358				540				143				102										
Total Temperature			11000			36740				29185				35800				8000				11000										
Airt of Unheated Surfaces			11000			36740				29185				35800				8000				11000										
Min. - Min. Room Air Temp.			187			811				358				540				143				192										
B.T.U. per Sq. Ft. Panel			2535			11800				9455				5705				3900				4005										
Panel Temperature			53			48				100				133				15				24										
Tube Spacing			24"			24"				15"				24"				4"				4"										
Cell Number			3			4				6				5				1				2										
Length of Cell in Feet (Approx.)			25'			125'				90'				74'				38'				61'										
Tube Size			1/2"			1/2"				1/2"				1/2"				1/2"				1/2"										
H.P.M. Flow through Cell 20° Temp. Drop			.25			1.30				1.00				.38				.30				.38										
Pressure Drop through Cell (Millibars)			1000			35000				16000				7400				1200				700										

TABLES above and on opposite page reveal calculations for heat loss and B.T.U.'s for this panel heating system.

visions would have been made to utilize additional surfaces in order to obtain lower surface temperatures.



INSTALLATION of iron piping for ceiling panels is shown above.



HERE pipe has been laid for a floor panel heating installation.

Upon determining the center spacing of the tubes for each panel, they were indicated on the plans. The first tube in the panel located within six inches of the outside wall. The warmest water is also supplied to the tube nearest the outside exposure, thereby presenting the warmest part of the panel to the exposure where the heat loss is the greatest. After the tubing was indicated, each panel was measured as to actual length. The rate of flow in G.P.M. (gallons per minute) through each coil was then determined by taking the heat loss in B.T.U. in the room, which is supplied by the panel, and dividing by 9,600, this being the number of B.T.U. released from a gallon of water when taking a 20 degree Fahrenheit temperature drop in the water. Then assuming the statement to be true, that regardless of the size of the tube, as long as the flow rate in G.P.M. is maintained, through a panel or coil which is imbedded in a mass (such as concrete or plaster) the panel will emit the required B.T.U., the size of the tube was determined. It is quite natural that the diameter of the tube should be held to a minimum. This is then where the law of hydraulics comes into play. It might also be said that the hydraulics of any hot water heating system are the determining factor as to whether or not it will operate satisfactorily. After determining the maximum of flow required in G.P.M. for each coil, the coil requiring the highest flow rate was used to determine the size of the tube. Using a chart showing water flow in G.P.M. and the resistance in milinches per lineal foot of tubing, the size of the tube to be used was found. Then by multiplying the milinch resistance per lineal foot of tubing by the maximum length of the coil in feet and dividing by 12,000 (milinches in a milfoot), the total resistance through the coil was determined in feet head. If this head resistance plus the resistance in the mains and other equipment should be greater than the head capacity of a standard booster pump, necessary steps should be taken to reduce the head resistance either through the use of a larger size tube, or splitting the coil or panel into a series of smaller units.

It should also be noted that each room is supplied by its own individual coil or panel which is fitted with a balancing cock. This arrangement is such that the temperature in each room may be varied to the individual requirement. The balancing cocks control the flow of water to each coil or panel. By closing a cock, the flow of water through that coil is decreased, thereby

SECOND FLOOR CALCULATION SHEET																																							
ROOMS		BED ROOM No. 1				BED ROOM No. 2				BATH				LAVATORY				HALL				BED ROOM No. 3																	
	Factors	Exposure	B.T.U.	Area Sq.Ft.	Surface Temp.	Surface Temp.	Area Sq.Ft.	Exposure	B.T.U.	Area Sq.Ft.	Surface Temp.	Surface Temp.	Area Sq.Ft.	Exposure	B.T.U.	Area Sq.Ft.	Surface Temp.	Surface Temp.	Area Sq.Ft.	Exposure	B.T.U.	Area Sq.Ft.	Surface Temp.	Surface Temp.															
Infiltration	Windows .72 Doors 1.42	.00	3820				34	1000			17	1100		17	900						61	2840																	
Total Outside Exposed Wall		214			100				106			20				45					100																		
Glass	1.13	40	4340	40	15	720	24	2100	24	15	300	12	1200	12	15	100	10	1025	10	15	270	30	3000	30	15	500													
Net Outside Wall	.20	170	2720	170	50	9000	164	2520	164	50	9000	93	1765	93	50	5400	18	250	18	50	1045	27	430	27	50	1860	84	60	4870										
Inside Wall	232	232	70	12240	200		200	70	14000	120	120	50	5400	60	60	70	5000	312	70	21840	200	280	70	14880															
Floor	.18	210	210	* 70	14700	100	100	70	16000	65	45	70	3100	22	22	70	1540	60	60	70	4000	100	100	70	7000														
Ceiling	.18	210	210		100		100		45		45		22		22		60		60		100		100																
Total B.T.U.		10800			5700				4000				2300				2000				7000																		
Total Area Less Heating Panel		900			650				270				102				423				423																		
Total Temperature		41010			34300				17100				2300				23200				23200																		
Mrt of Unheated Surfaces		41010			34300 - 60°				17100 - 60°				2300 - 60°				23200 - 60°				23200 - 60°																		
Mrt = Mrt + Room Air Temp.		60° + 70° - 60½°			60° + 70° - 60½°				60° + 70° - 60½°				60° + 70° - 60½°				60° + 70° - 60½°				60° + 70° - 60½°																		
B.T.U. Per Sq. Ft. Panel		10000 - 52			8700 - 45				4000 - 51				2300 - 107				2000 - 52				7000 - 75																		
Panel Temperature		50°			50°				120°				120°				50°				110°																		
Tube Spacing		20"			22"				14"				12"				24"				10"																		
Cell Number		7			8				9				11				10				12																		
Length of Cell in Feet (Approx.)		120'			90'				45'				25'				35'				70'																		
Tube Size		1/2"			5/8"				5/8"				5/8"				15/16"				15/16"																		
G.P.M. Flow through Cell 20° Temp. Drop		1.10			.70				.40				.25				.25				.25																		
Pressure Drop through Cell (Millibars)		25000			20000				10000				10000				10000				10000																		

HEAT losses for radiant panel heat are calculated in the same manner as for a conventional heating system.

effecting a greater temperature drop in the water, and causing the panel to emit less heat.

All of the piping is arranged so that the air will move to a high central point where it will be expelled automatically. The direction of flow of air is with the direction of the flow of the water. It is essential that the air be released from the system so that positive circulation of the water will result, for without complete release of air from the system, the heating will be spotty, if at all. It will also be noted that an additional precaution has been taken for the elimination of the air, this being the airtrol installed at the boiler. The use of this fitting, when properly installed, assures complete elimination of air from the system at the place where it is released from the water—the boiler.



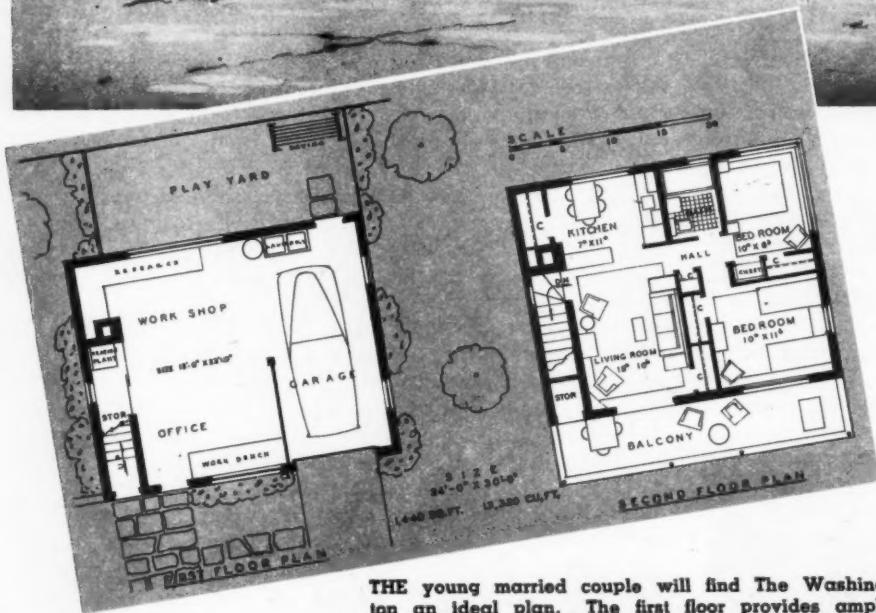
WROUGHT iron piping for radiant heat is welded on the job site.

As in all other heating systems, good materials are necessary to obtain lasting results with little service. Likewise good workmanship is essential, for good materials are no better than the workmen who install them. It is therefore a necessity that the work of all trades entering into the building construction be coordinated in order to obtain the ultimate final result. A good final result is usually obtained only through the use of a complete set of architectural and mechanical working plans, properly supervised.

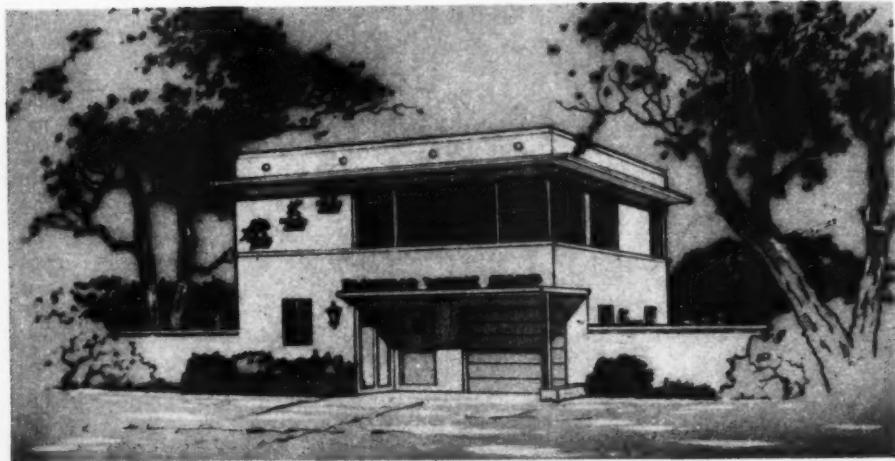
As has been previously stated, the coils indicated on the plans are made up of copper pipe imbedded in the plaster, and installed as shown in the section through the ceiling showing copper piping. However, iron or steel piping can be used in the installation, by using aluminum foil on the bottom of the joists, supporting the coil from the joists, and applying metal lath and plaster to the coils, making sure that there is a bond between the plaster and the coils.

This may be handled as indicated in the section through the ceiling, using iron or steel pipe. It is suggested, however, with iron or steel pipe that one size larger pipe be used than the size indicated for copper pipe. The reason for this is the manner in which the two types of pipe are joined. Copper is joined together by sweat type couplings, which assure a smooth internal surface, whereas iron or steel pipe is joined together with a welded joint and a burr will in all probability result in the joint which will set up a resistance and cut down the flow of water through the coil or panel.

There are innumerable things which can be said about radiant panel heating, but there is one comment which should be made. The size of the tube and the tube spacing as indicated on the plans are at a minimum or a maximum whichever way is considered, and are based on information which was obtained from various sources. The way this system is sized is contrary to many methods used today in figuring and designing radiant panel heating systems. It is designed on the extreme, rather than the conservative, because there is very little information available as to how small the size or the quantity of pipe that may be used and still have the system operate satisfactorily. The system was designed in this manner in order to utilize a minimum amount of material. The hydraulics of the layout are correct, and as long as these limitations are maintained, the system will circulate, and the over-all results will be achieved.



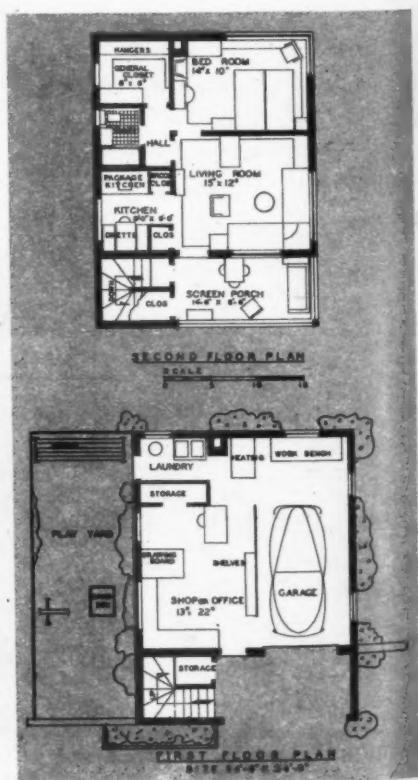
THE young married couple will find The Washington an ideal plan. The first floor provides ample space for office or workshop with room to spare for laundry, heating plant and car. The second floor features a large dining room, dining alcove, compact kitchen, two bedrooms, large closets and balcony porch.

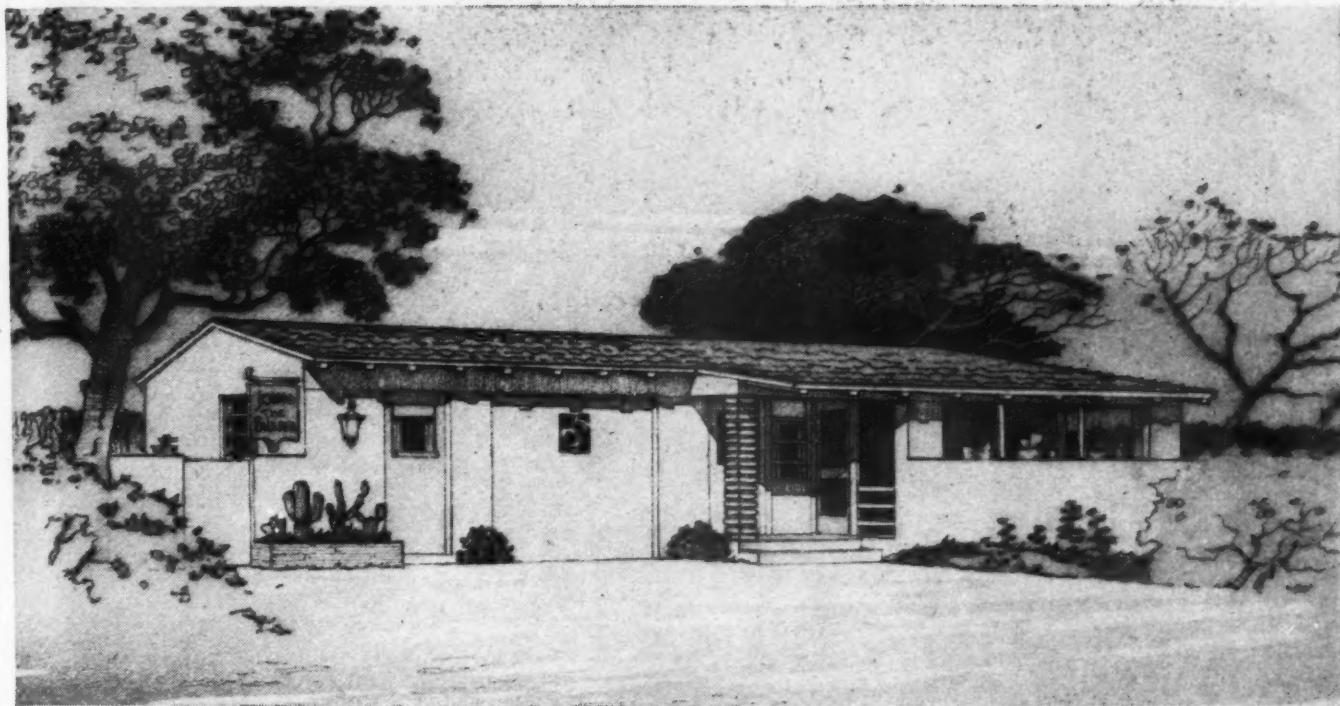


THE Jefferson features a compact apartment on the second floor with a porch which may be used for outdoor living, either glazed or screened. A car can be parked under the balcony porch and allow use of the entire first floor for an office or shop.

## Get Down to Earth, America

**Some veterans need both a house and office or shop**





FOR the war veteran who has a problem of providing himself with a small office or workshop in addition to housing, the American Plan Service has developed a number of designs, several of which are illustrated on these pages. With but a small financial investment, any individual can find here an attractive, practical and economical solution to his housing difficulties, as well as making adequate provision for his own business, shop or store.

The basic unit is a work shop, approximately 20x26 feet, with an apartment in the same area. Many opportunities for veterans and others have been neglected because of the lack of adequate facilities for carrying on the business. Some of the opportunities it is possible to capitalize on with the type of structure shown here, as outlined by American Plan Service, include general classifications such as construction, furniture repair and rebuilding, small manufacturing, chemicals, specialties, various trades.

Any veteran or individual interested in entering the construction business in a small way would find one of these small office spaces adjacent to his living quarters adequate for limited operations.

Furniture repair and reupholstering is a business which many veterans are entering or would undertake if adequate space for small operation were available. With the new portable air compressors, furniture, metal or wood can be sandblasted and new finishes applied in a small workshop.

The Veterans Administration has many items that veterans can set up on machines or in wood working shops. By following some of these suggestions, small shops have been established and are making very substantial volumes that will continue to grow as the business progresses, and will eventually outgrow such small quarters as those shown here, suggested as starting headquarters.

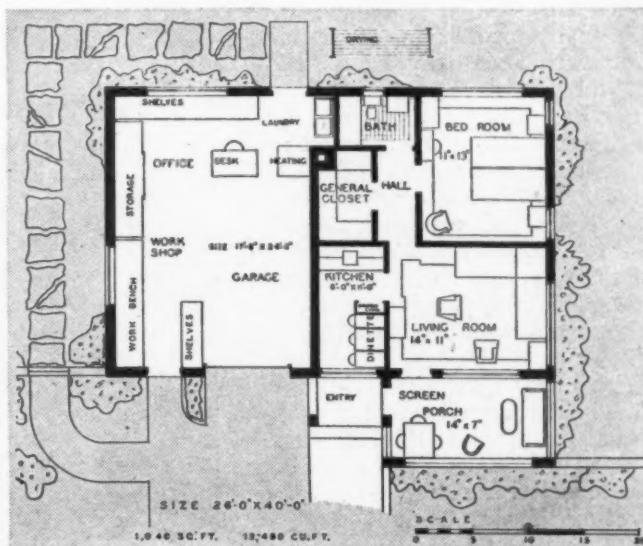
By combining actual chemical experience gained in the service with possible previous chemical training, a veteran can make many items at home in the limited space provided by these structures. The field of chemistry is so immense and the opportunities so limitless that a small workshop in which to start could very easily provide

ANY man in the outdoor field will find this ranch house type building as true to the soil as tradition itself. Titled the Lincoln, it features an apartment with comfort for a family of four, admirably suited to any future additions that may be desired. It will satisfy personal taste as well as budget.

some veteran with a chance to establish a larger business later on.

All building trades such as plumbing, wiring, painting and such can be operated out of a small shop adjacent to living quarters, while the business is small. A young doctor, architect or other professional man can have a beautiful office and home combined as shown by the plans illustrated.

The architectural lines of these structures permit their erection in many locations where a typical commercial structure would be objectionable. Careful planning of the relationship between living quarters and business office or shop in these designs provide maximum privacy in such a structure for both living and working.



FLOOR plan for the Lincoln garage apartment shown at top of page.



FACTORY built to precise measurements, the cabinets are the heart of this fully equipped modern kitchen.

## Stock Woodwork Helps Builders To Deliver Big Values

**T**YPICAL of the advances made in factory production techniques and improved products by leading millwork manufacturers during the otherwise stand-still war years are the developments at the Carr, Adams & Collier Co. plant at Dubuque, Iowa. Like many producers of building products this company, hampered by material shortages and government restrictions during the war, spent the time preparing for the vast post-war market. The results at the Carr, Adams & Collier Co. plant are better streamlining of production operations for economies in manufacture, and the development of a new line of standardized, pre-fit, and carton-packed woodwork, announced this fall.

With every carton containing detailed instruction sheets for assembly and installation, the new line is designed to cut building costs, and provide better service.

During the war the company's research and standardization departments gave every product coming

**Precise dimensions and authentic styling of modern millwork effect on-site labor economies**



MODERN, factory-made, packaged entrance.

off the production line a thorough study. As a result, the new designs, known as the new Bilt-Well line, were not announced until they had been thoroughly investigated and had stood on trial before a critical jury of company officers and key department heads.

They did not put the Bilt-Well trade-mark on a product until they were convinced that it would maintain the firm's 80-year old reputation for quality and design, and would lend itself to mass production to keep down the price and provide better service than would otherwise be possible.

This selection took time. But there was ample time when the war and post-war shortages made it impossible to go into regular production. Now the company is confident that their new line offers present-day perfection of workmanship, design, and service at regular prices, and that builders everywhere will benefit greatly for the time spent in developing the new Bilt-Well line.

Superior windows, Nu-Style kitchen cabinets, entrances, and other items in the line are pre-fit and easy to put together. Window units and entrances are chemically treated. Products in the line that lend themselves to carton packing are carton packed, and others are packed in sturdy bundles.

Bilt-Well products are made to be used in both large and small buildings, and are in keeping with the present trend to modular sizes for economical construction.

Ponderosa Pine, used in making the new Bilt-Well line, has been used by the company in most of its production since 1898 when the nearby forests of Northern Pine were exhausted.

The company has over 80 years of woodworking experience, having



TYPICAL modern fireplace mantel.



AIR VIEW of Dubuque, Ia., showing Carr, Adams & Collier plant.

started in 1866 as Carr, Austin & Co. It has grown to a plant of over 20 acres of floor space in Dubuque alone, not including affiliated plants in other sections.

At present the company is in the process of constructing additional buildings and installing new machines to back up the mass production of their line as the supply of lumber increases. A new block-long lumber warehouse is nearing completion. It will hold over 3 million feet of lumber, with a potential capacity of  $4\frac{1}{2}$  million feet when a new type of lumber package is put into use. This will help insure production of the line through short slumps in lumber shipments from the saw mills.

During the selection of products to be included in the line, the com-



ATTRACTIVE, packaged corner cabinet.

pany kept a close check on the wants of builders and consumers  
(Continued to page 164)



MODERN, pre-fit factory-built, packaged windows add new and thrilling living comfort to 1947 homes.

# Industrial Research And Co-ordination Produce Engineered Modular House

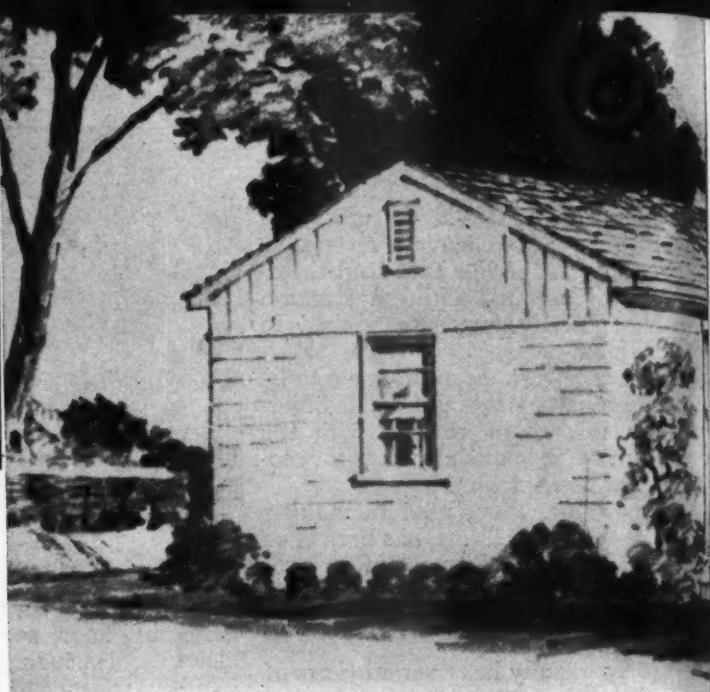
**The National Retail Lumber Dealers Association has set in motion an Industry Engineered Homes Program with the sole purpose of reducing costs of small home construction**

**E**VERY contractor knows that a blueprint of a home plan is not a house.

The contractor brings lumber, wallboard, cement, brick, windows, doors, cabinets, hardware, plumbing, heating, and lighting fixtures from all parts of the United States to one home site. Installed by workmen of different industries, these parts must arrive at the site on a synchronized time schedule—and each part must fit.

This coordination of workmen and parts is a problem requiring continuous solution by the building industry. For new materials, new workmen and methods must be constantly coordinated at the home site if each home is to be built at the lowest possible cost.

The Industry Engineered Homes Program is a means of demonstrating the substantial economies which can be made in home building. The home plans shown on these pages, which have been designed by A. Gordon Lorimer, architect and technical advisor to the Producers' Council, have been created principally for the purpose of illustrating a set of basic principles. While of necessity the program has been focused upon two house plans with variations, the basic aim of the study has been to



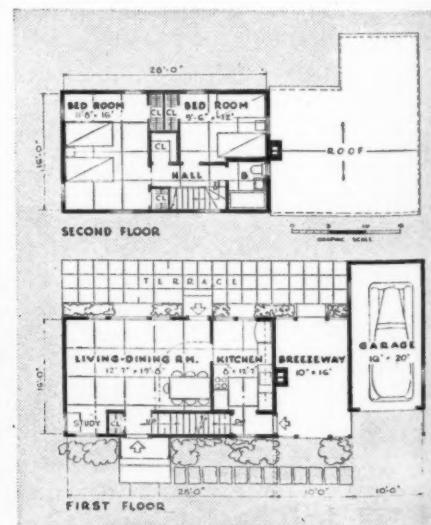
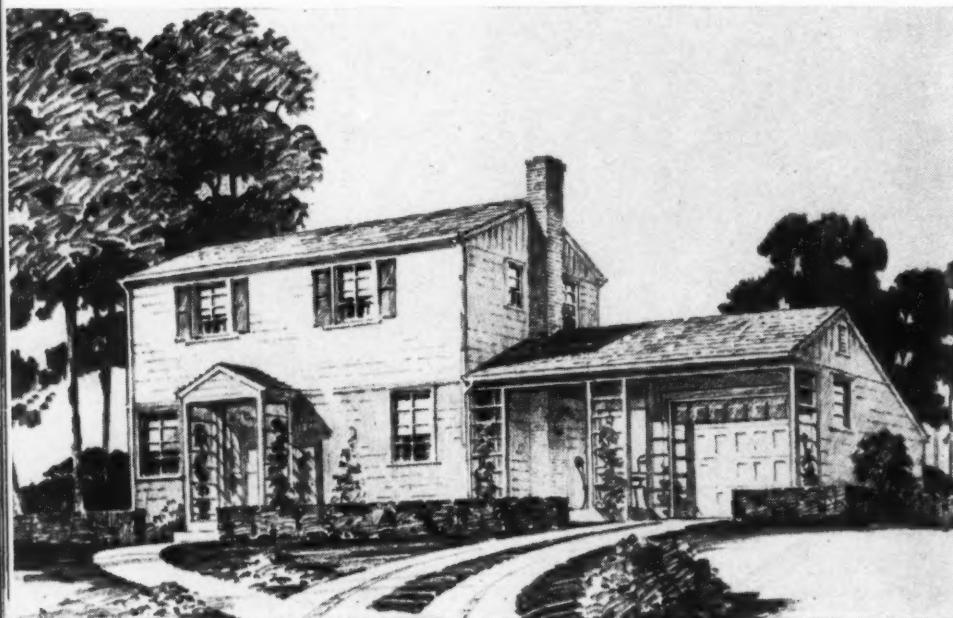
RENDERING above indicates the practicability of combining two 16x24 foot basic units in the form of an L-shaped house. Elimination of sameness in exteriors is prevented by house placement on the lot, the use of different types of materials and location of auxiliary structures.

establish general principles which will be applicable to small home building throughout the country.

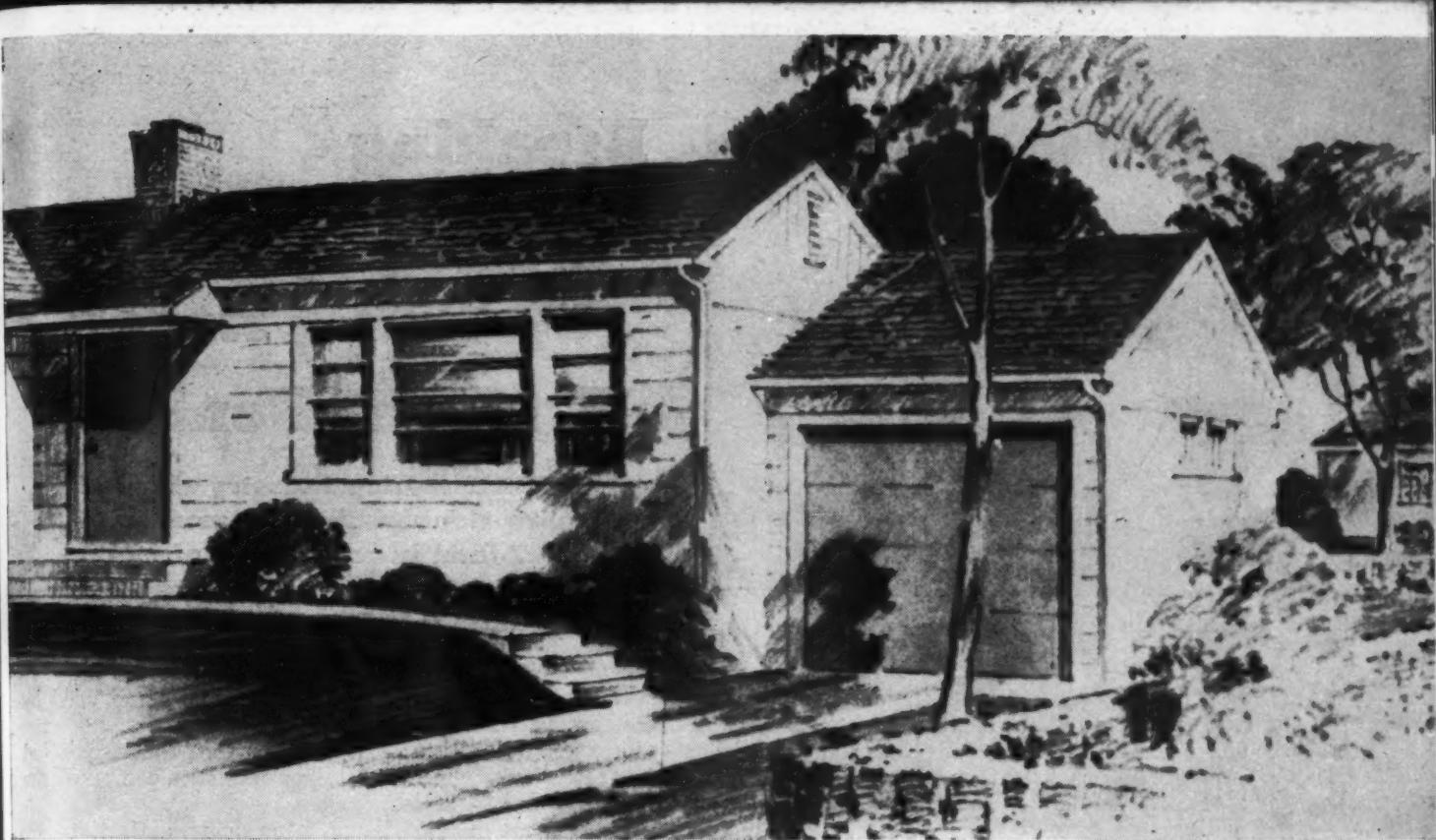
In the past, building products were manufactured in a wide variety of sizes. This resulted in time consuming cutting and fitting of related products in the field, in order to build according to dimensions in the plan.

Under the modular system of designing homes, all measurements are based upon 4-inch multiples. All parts used in building are drawn in place in reference to a 4-inch grid system.

The saving found in the Industry Engineered Homes Program results from the fact that the dimensions of the homes engineered are coordinated with the dimensions of standard materials. In general the 4-foot module has been adopted for planning purposes insofar as possible. Thus, stock sizes of standard materials will fit into these homes with a minimum of cutting and fitting.



TWO story feature house, with rendering at left, is made up of two 16x28 foot units, placed one on top of the other.



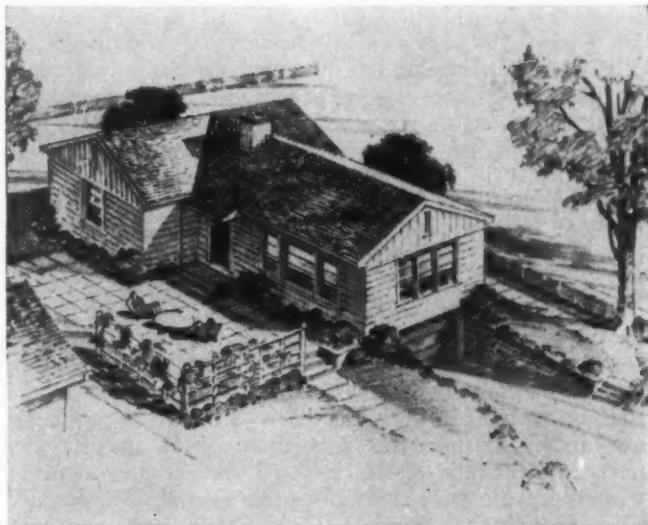
As construction cost savings was the primary goal of the entire program, the house plan had to be built up of dimensions of length, width, thickness, and height, which would provide for the maximum savings through the coordinated use of all materials. Careful analysis showed that a plan unit 16 feet by 24 feet or 28 feet had definite merit. The 16 foot width was the largest space that could be spanned by 2x10 inch joist unsupported except at the ends. The 16 foot span between walls also permits the use of a very simple tied rafter-type of roof truss, readily assembled on the floor and easily lifted into position by two men.

In the direction of length it was decided that either 24 feet or 28 feet were convenient multiples of a 4-foot module which would provide equally for joist and stud spacing on 16 or 24-inch centers on framing for floor, wall or ceiling construction.

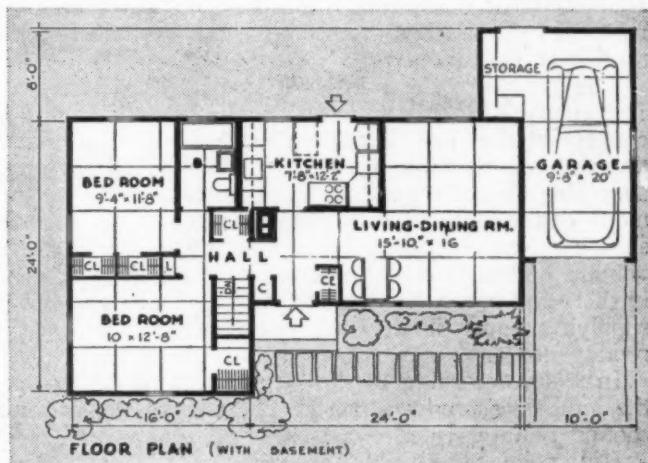
It was recognized that a 16x24 foot or a 16x28 foot housing unit would be too restricted for the average American family. The adoption of these two basic sizes led to a study to determine the practicability of combining the 16x24 foot unit with another of the same size in the form of an L-shaped or two story house. This study indicated that the savings remained the same when the units were combined into larger structures.

Because both labor time and materials can best be saved by installing the finished floor and ceiling materials prior to erection of interior partitions, this practice has been recommended. This makes possible the pre-assembly of closets and storage walls either off-site or on-site. None of the interior partitions in the L-shaped house are load-bearing and only one partition conceals pipes and plumbing.

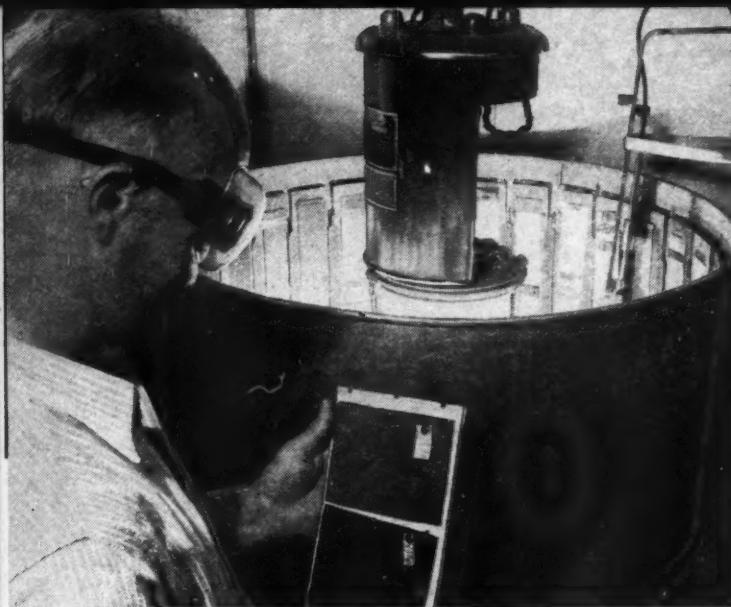
An extensive time and motion study of site fabrication of small homes has been started by the Small Homes Council of the University of Illinois in an effort to furnish the small contractor and builder with information as to how he can reduce construction costs. Six houses are now under construction. The houses are being constructed two at a time. The lessons learned in building each pair are used in an attempt to improve operations on each succeeding pair.



THIS house is a variation of one shown above except that garage is placed in basement. This is adaptable to rolling site.



PLAN indicates adoption of 4-foot planning multiple for lengths, widths and heights. All partitions are non load bearing.



INGENIOUS weatherometer speeds research on asphalt roofing.

**S**HIPMENTS of asphalt shingles in the first six months of 1947 exceeded the shipment of asphalt shingles in the entire year of 1941, prewar peak production year. If the present rate is maintained, total shipments of asphalt roofing, excluding saturated felt used in built-up roofing, will approximate 70 million squares this year.

Breaking production records to meet unparalleled demand is not unusual performance for the asphalt roofing industry. In establishing a new record in 1941, the industry topped its previous best year by 3 million squares. Yet, in each war year, the industry substantially exceeded its '41 performance despite severe and at times seemingly insurmountable shortages of rags, paper, felt, and granules, and lack of new equipment and limited manpower. With the easing of the labor and material situation, the industry shipped more than 60 million squares of its products in 1946, excluding saturated felt, a 43 per cent increase in shipments in squares over 1941, and an increase of 82 per cent in tons of roofing produced.

During the war, when competitive materials had practically disappeared from dealer warehouses, and when contractors, farmers, and home owners were hard-pressed to find roofing to meet essential civilian needs, asphalt roofing flowed in unprecedented volume from production machines. Despite this performance, the industry was unable to entirely fill the demands of a war economy, as well as fill the void created by the virtual disappearance of competitive products.

Shipments at times were tardy, and dealers and contractors were not always able to get the exact shingle they wanted, but it is doubtful if any industry in the building material field matched the production achievement of the asphalt roofing industry.

The growth of the industry is a saga of the system of free enterprise. It is an industry which was born in this country at the turn of the century. In its beginnings, progress was slow but steady. By 1917, the industry was supplying about 18 per cent of the total roofing requirements of the country, mainly asphalt roll roofing. Asphalt shingles then comprised but a minor part of the total volume. Then followed a period of rapid growth, until in the years preceding the last war, asphalt roofing was supplying approximately 65 per cent of the nation's roofing needs.

In 1946, according to the Department of Commerce, the industry's products met 86 per cent of the nation's roofing requirements.

High volume has enabled the industry to keep its prices down. Despite an increase in manufacturing costs ranging from 25 to 50 per cent, asphalt strip shingles, con-

# Breaking Production Records To Meet Demand

**Asphalt roofing industry shipped more shingles first six months of 1947 than in entire year of 1941. Improved strip shingles today cost less than inferior product in 1926**

stituting the largest volume sold by dealers and used by builders in residential construction or repairs, are currently selling at a lower price than in 1926, the base period from which the Bureau of Labor Statistics computes the rise and fall of wholesale prices.

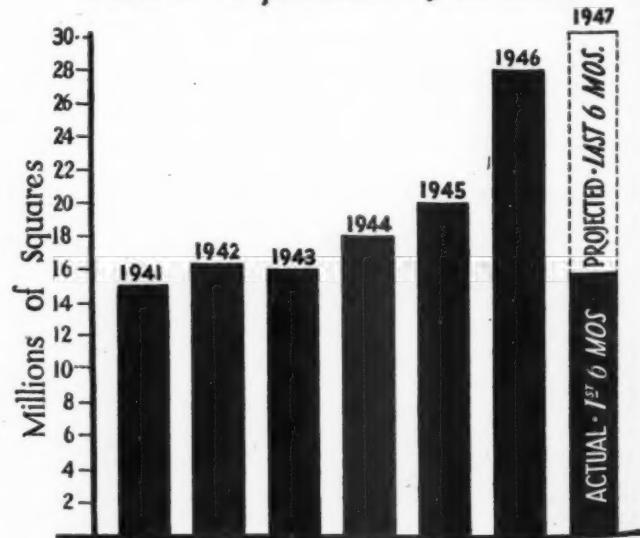
While alert merchandising, advertising, and selling by manufacturers and equally by dealers, have played a prominent part in the rapid growth and acceptance of asphalt roofing, continuing product improvement combined with low cost, has been a predominating influence. Improvements in the product, resulting from constant research, study and tests by the industry have been many.

The manufacturers of asphalt roofing have concentrated attention and research on providing longer life, greater resistance to the elements, more attractive designs, improved methods of application, and more pleasing colors. Basic improvements in the materials used in manufacturing asphalt roofing and refinements in manufacturing techniques have resulted in a product that makes roll roofing and shingles a far superior product to those available a few years ago.

Improved techniques in felt manufacture and saturating  
(Continued to page 166)

## SHIPMENTS - ASPHALT SHINGLES

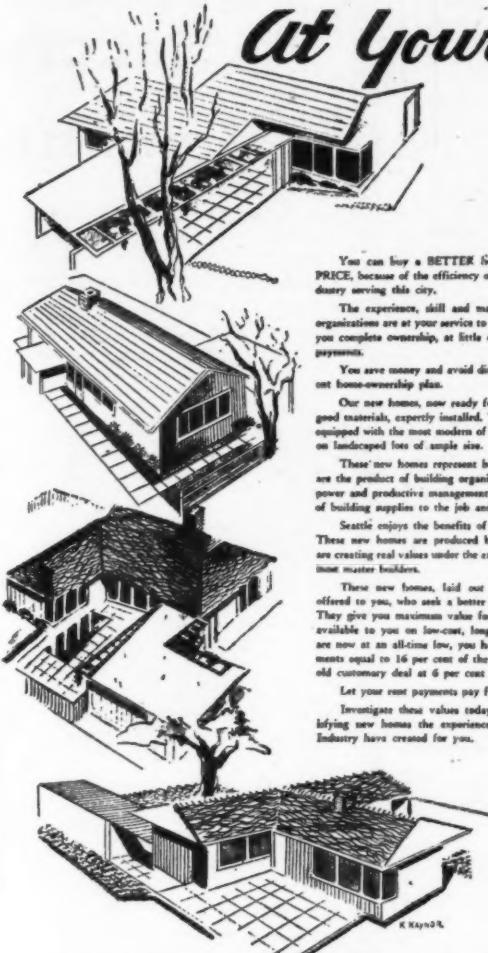
SOURCE: *Department of Commerce*



1946 production reflected an 85 per cent increase over 1941. First six months of 1947 output exceeded that for all of 1941.

# **EXPERIENCE + SKILL**

# At Your Service



You can buy a BETTEK home in Seattle today, AT A LOWER PRICE, because of the efficiency of the well co-ordinated homebuilding industry serving this city.

The experience, skill and management—ability of our co-operating organizations are at your service to put you into a good new home and give you complete ownership, at little or no extra cost over your present ownership.

You save money and avoid disappointments when you accept our present home-ownership plan.

Our new homes, now ready for your inspection, have been built with good materials, expertly installed. They are attractively designed and fully equipped with the most modern of house appliances. They are well located on landscaped lots of ample size.

These new homes represent big value in today's market, because they are the product of building organizations of long experience, large buying power and productive management methods which assure a dependable flow of building supplies to the job and efficient labor performance.

Seattle enjoys the benefits of a highly skilled building labor market. These new homes are produced by well-paid, experienced craftsmen who are creating real values under the experienced management of the city's foremost master builders.

These new homes, laid out and erected in a businesslike way, are offered to you, who seek a better home, completely finished and equipped. They give you maximum value for your home-building dollar. They are available to you on low-cost, long-term financing. Because interest rates are now at an all-time low, you have a reduction in your monthly payments equal to 16 per cent of the total home cost, as compared with the old customary deal at 6 per cent interest.

Let your rent payments pay for your own home, beginning NOW!

Investigate these values today. See for yourself what attractive, satisfying new homes the experience and skill of Seattle's Home Building Industry have created for you.

# **SEATTLE'S HOME BUILDING INDUSTRY**

**Seattle Master Builders' Assn.** . . . . . Real Estate Board . . . . . Lumber and Building Supply Dealers  
**Home Appliance Dealers** . . . . . Building Material and Equipment Producers . . . . . Seattle Architects  
**Mortgage Bankers** . . . Residential Appraisers . . . Building Trades Council American Federation of Labor

NINE major segments of the Seattle home building industry have cooperated in publishing a series of page and half page ads in local Sunday newspapers in a comprehensive, cooperative public relations program.



# BETTER LIVING in a Better Home

But what about the price?—and the building-cost outlook?—you may ask. Is this the time to buy or build?

**Homebuilding costs in the Seattle area are now stabilized at a level not out of line with other commodity costs, wages and earnings.** This city is in a fortunate position in that the percentage of homebuilding cost increase here since just before the war is 12.3 per cent less than that of the average of 43 representative cities in the U. S. according to figures from the Federal Home Loan Board.

Moreover, the leaders of the Seattle Housing Industry are determined to hold total here at their present level—through production efficiency and careful job-planning—in spite of threatened further advances in coal, steel and basic commodities. Good value is being delivered today in these new homes as planned and designed by these competent building men. Combined cost and quality—and you will appreciate

hy not move into a better home for better NOW? To delay is only to increase your nties. As rent controls come off, why not and stabilize your own shelter costs by a home purchase plan at the very favor-  
is now available to you?

# PING INDUSTRY

## **Cooperative Promotion Pays Dividends to t**

**T**HE campaign of public information on home building sponsored by all the local factors in the home building industry of Seattle, Wash., is proving successful. Most of the promotion money is being spent for full page and half page advertisements in Sunday editions of local newspapers.

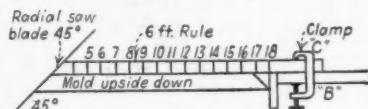
According to reports from builders in the area, the promotion has effectively broken buyer resistance to present building costs, which reached dangerous proportions early this summer.

Each advertisement explains in detail some phase of the current home building situation, such as outlook, price trends and the true value being built into today's houses. The ads are signed "Seattle's Home Building Industry" with the following divisions listed under that signature: Seattle Master Builders' Association, Real Estate Board, Lumber and Building Supply Dealers, Home Appliance Dealers, Building and Equipment Producers, Seattle Architects, Mortgage Bankers, Residential Appraisers, Building Trades Council of AFL.



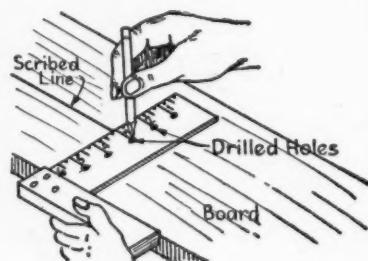
## How - To - Do - It Pointers

### How to Make a Moulding Scale



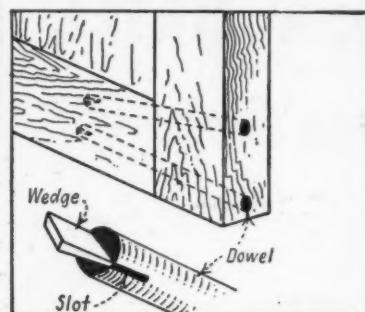
J. G. CALDWELL, San Mateo, Calif., in presenting this idea says: "By using this scale it is possible to cut mouldings of any length with no marking. Recently I cut 80 pieces of stucco mould — the lengths were all taken to short points of the mitre's. I measured and marked one piece. The first length was 14" short point to short point of 45 degree mitre. Radial saw was set on 45 degrees as shown, first piece was cut one end and turned over. Then I marked it 14" short point to short point, moved along and cut it. Then I moved block "B" to long point and clamped it to rule with "C" clamp. Rule was then clamped to saw table as shown.

### How to Convert a Try Square for Use as a Marking Gauge



A TRY square can be converted into a handy marking gauge by drilling small holes at each inch mark on the metal rule. By inserting a pencil through the hole at the proper mark as shown, it is possible to mark off lengths of lumber more accurately. HERBERT E. FEY, New Braunfels, Texas.

### How to Repair Stiles and Rails of Doors



HERBERT E. FEY, New Braunfels, Texas, in submitting this idea says: "When a tenon breaks or loosens on a door that is in good condition otherwise, it can be repaired with a couple of dowels. Pull up the door parts tightly with a bar clamp, drill two holes for the dowels, one straight, the other at an angle. Before inserting the dowels slot the ends to take small wedges. Coat them with glue and drive them in place. When the wedges strike the bottom of the holes they will spread the dowel ends and anchor them tightly in place."

### How to Make a Handy Concrete Mixer



A HANDY concrete mixer big enough for small jobs can be made by inserting a paddle in a  $\frac{1}{2}$ " electric drill. A 15" length of  $\frac{1}{2}$ " shaft has a 1" x 8" paddle welded to it. The paddle is heated and bent slightly in the direction of rotation to force concrete to the bottom of container and prevent splash when in use. Can be used to mix plaster, paint or anything where a quick mix is required. EARL SEIDLINGER, Columbus, Ohio.

# AMERICAN B

### Resurfacing With Asbestos Shingles

By R. J. Alexander

ASBESTOS sidewall shingles, or siding, are used extensively as a resurfacing or covering for old buildings. Many old houses, though structurally sound, have been neglected to a point where a satisfactory paint job is no longer possible.

To overcome this condition, asbestos sidewall shingles are particularly well adapted. Applying a good grade of building paper or felt over the old siding before putting on the new shingles will result in a partial but effective insulation job. In this respect the applicator should make sure that the building paper is lapped at the corners, and extends onto the casings, frieze and baseboard, when the shingles cover these members.

The first course of asbestos shingles should be started at the lowest point on the building, and should be put on level, even though the building may be an inch or two out of level. If two wings of the house are on different levels, it is advisable to put the starting course on at two different levels and then run the second course completely around the house, making a variance of exposure in the first course. All succeeding courses will then be at one level.

Most manufacturers furnish waterproof felt strips for use under the vertical joints of the shingles. Because there is only a one and one half inch head lap on the shingles, which results in a single thickness of asbestos over part of the wall, it is important that the felt strips be used.

Rust-proof face nails, usually Cadmium plated, are furnished with the shingles. 5d galvanized box nails are recommended for nailing the upper edges as they will be hidden by succeeding courses. Face nails of a type that resist pulling or loosening should always be used.

Various types of metal mouldings for use at corners and as trim around door and window openings are available. It is possible to interlace the shingles at the corners, smooth them down with a rasp and eliminate the metal trim. However, protection of the corners by use of the metal trim is suggested.

Wood mouldings for use as trim around doors and window openings may be made by the carpenter with a power saw. They should be painted before application.

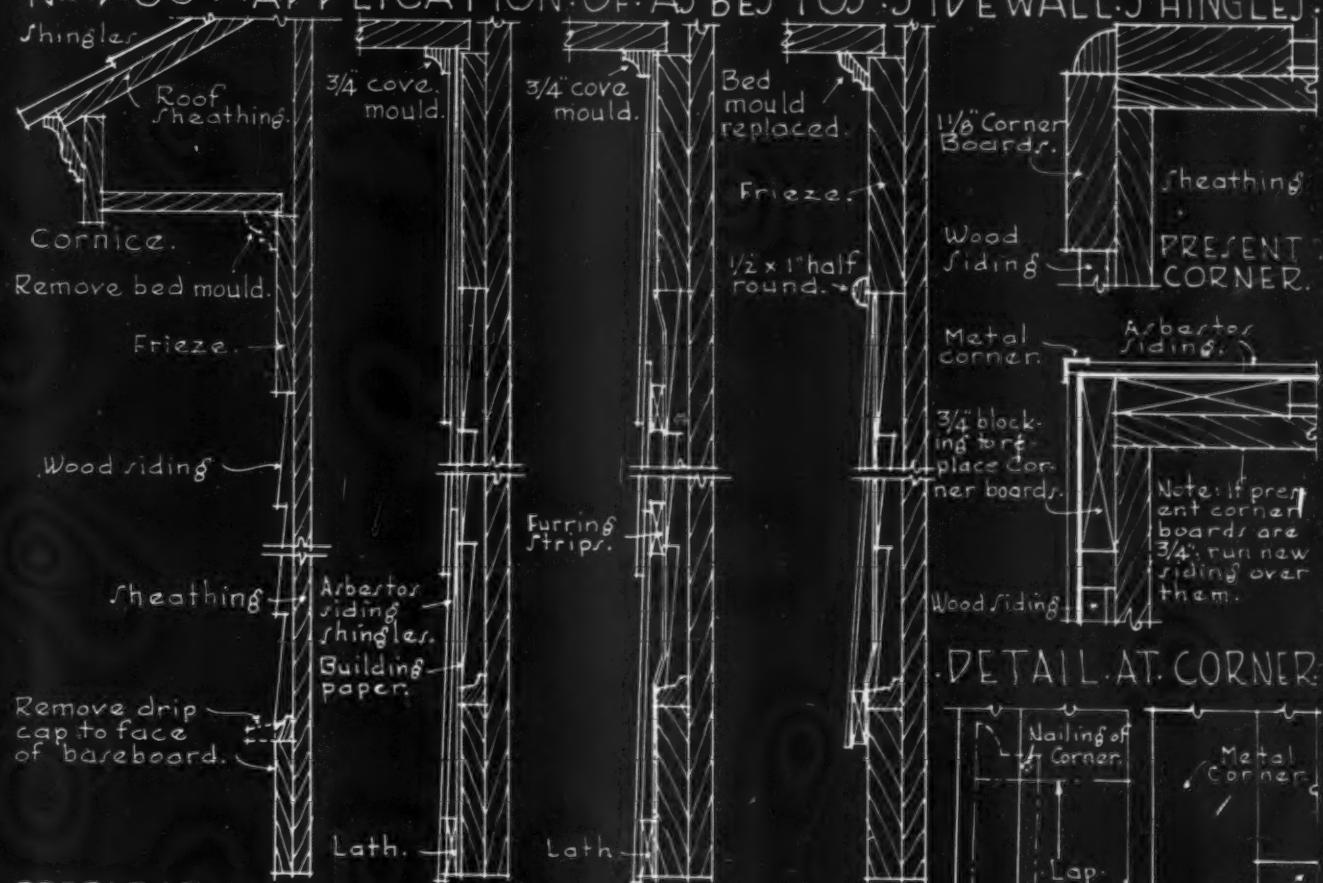
Asbestos shingles come in a wide variety of colors and blends as well as a number of different end patterns, including the colonial with its wavy line and a pattern imitating the wood shake.

# AN **BUILDER'S BETTER DETAIL PLATE**

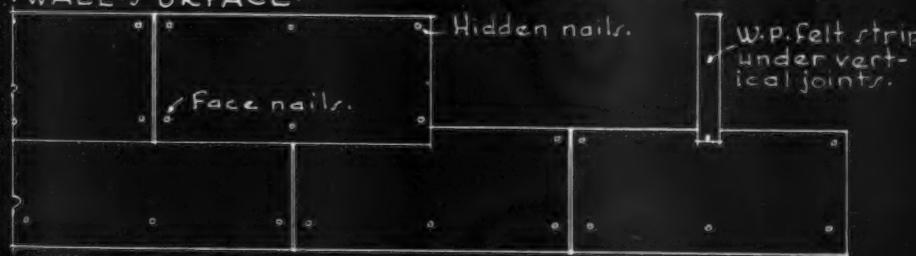
American Builder, October 1947.

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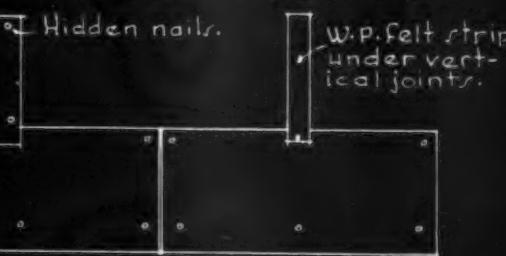
## NO. D.36 . . APPLICATION OF ASBESTOS SIDEWALL SHINGLES.



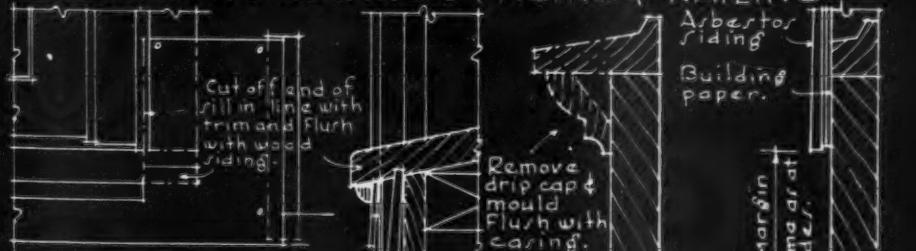
### PREPARATION OF WALL SURFACE.



### APPLICATION DETAILS.



### ELEVATION SHOWING SPACING & NAILING.

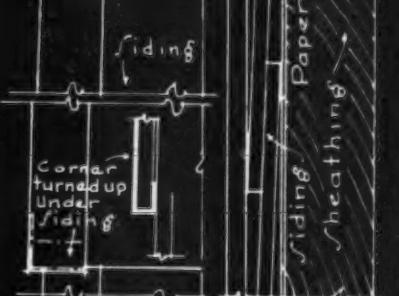
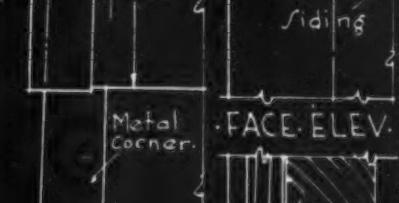


### DETAILS OF WINDOW SILL.

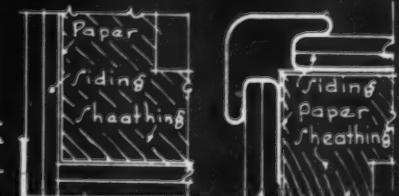


### TYPICAL WINDOW & DOOR TRIM.

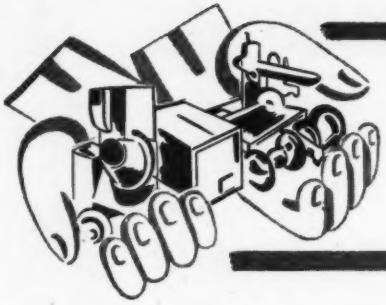
### DETAIL AT CORNER.



### FACE ELEV. SIDE ELEV.



### INDIVIDUAL..CONTINUOUS METAL CORNERS.



## NEW PRODUCTS

Offered by Manufacturers

### DOUBLE-BOWL SINK

**AB10723**

A double-bowl, double-drainboard sink, 66 inches wide, is being produced by the American Central Division, Avco Manufacturing Corp., Connersville, Ind. It is equipped with three storage compartments, four drawers,



and a cutting board. Its top is of acid-resisting porcelain enamel, and its faucet assembly of brass heavily chromeplated. The drawers are opened by pulls, slotted beneath the front panel. A recessed front and offset base provide ample toe and knee room. If desired, additional concealed drawers may be substituted for shelves in the storage compartments.

### PANEL WINDOWS

**AB10707**

A panel window with all mechanical devices eliminated is available from the Linwood Panel Window Co., Winchester, Va. The window is made up of various numbers of glass panels, half of which are fixed in the sash and the other half of which move in silent felt lined grooves. The wood sash is complete in one unit and is permanently sealed in the frame. Only the glass panels open for ventilation and when closed make the window airtight and dust proof. To achieve a picture window effect all cross and vertical members of the panel window are the same width. Sparkling, double-strength glass is used together with New England White Pine in the frame and Western Pine in the sash. The window is furnished complete with frame and outside trim.

### FLOOR COATING

**AB10721**

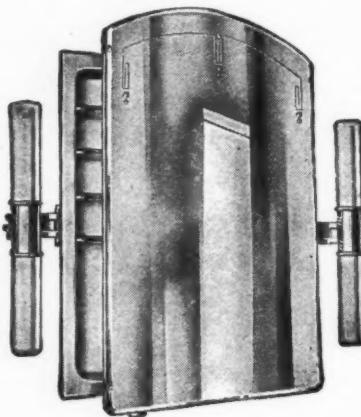
Especially designed for concrete but also satisfactory for wood flooring is the Carbo Floor Coat, product of Carbozite Protective Coatings, Inc., Greensburg, Pa. A decorative and protective coating, Carbo Floor Coat seals surface pores and prevents absorption and attack from

mild acid and alkali solutions, oils and detergents, and water. This coating penetrates well down into the pores of concrete or wood, but does not form a thick coating which will chip or mar and does not become slippery. Application is by brush or a push broom and drying takes from three to four hours.

### MEDICINE CABINETS

**AB10701**

Bathroom medicine cabinets with new, ultra-modern light fixtures are available from the F. H. Lawson Co., 801 Evans St., Cincinnati, Ohio. These fixtures provide more light than the conventional type of fixture. They are equipped with tubular shades which are threaded for easy insertion in or removal from chromium plated brackets. The bracket on the left side of



the cabinet contains a switch that controls the lights, while the bracket at right has a convenience outlet. These cabinets are wired to comply with Underwriters' Laboratory requirements.

### GARAGE DOOR

**AB10705**

A garage door made of aluminum, steel or plywood panels is being offered by the L. S. Taylor Manufacturing Co., 849 Marietta St., N.W., Atlanta, Ga. The door requires no headroom and is supported by its own guide rails, which are mounted on the door jams. Marketed under the trade-name Tayco, the door is a two-fold type, semi-automatic in operation, opening at the touch of a finger due to accurate counter-balancing. A strong piano-type hinge joins the two panels and self-oiling bronze bearings are provided in the pivotal hinges. The counter-balance cables operate on ball bearing airplane type control sheave wheels. The door folds inside.

### FOOD WASTE PULVERATOR

**AB10708**

An odorless, clog-proof kitchen sink pulverator is being produced on the West Coast by the Given Manufacturing Co., 3855 Santa Fe Ave., Los Angeles 11, Calif. Named Waste-King, the unit can be installed on any sink with a drain opening 3½ to 4 inches in diameter. To operate, the drain control top is removed and food wastes are put down the drain opening in the kitchen sink.

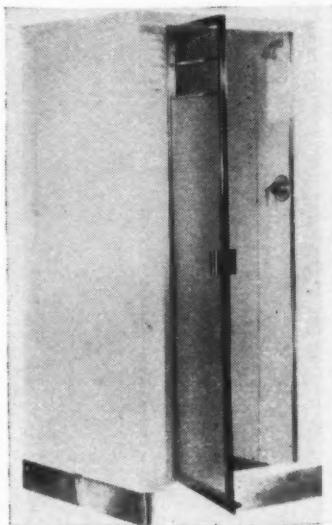


Then the drain control top is replaced and turned to the "on" position; immediately a pulverizing action grinds the waste matter into minute particles which are flushed away in a few seconds by running water from the faucet.

### SHOWER CABINETS

**AB10716**

A new line of modern design shower cabinets is being manufactured by the Tiletone Co., 2323 Wayne Ave., Chicago, Ill. The result of considerable time spent in engineering research and design, the line features three



styles of stall cabinets: deluxe, standard and utility. The deluxe cabinet, (Continued to page 145)

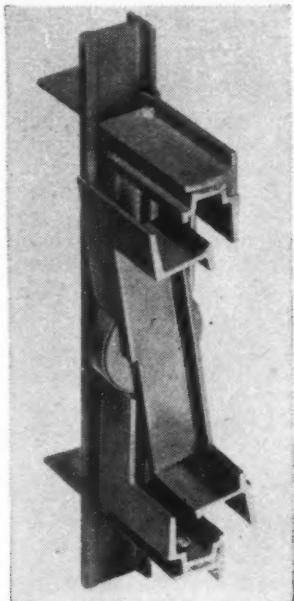
(Continued from page 144)

illustrated, includes a lighted interior, terrazzo receptor, adjustable spray shower head and a valve that will hold the water to the temperature desired. The standard line has beauty of design and functional correctness and can be used in any bathroom installation or to provide an additional shower in the home. The utility shower cabinet is for basement, laundry, playroom, and summer cottage installation.

#### INDUSTRIAL WINDOW

**AB10711**

A new type of industrial window sash is being made by Hope's Windows, Inc., Hopkins Avenue, Jamestown, N.Y. It is designed for greater strength and weather-tightness in industrial buildings having large glazed wall areas, or wherever there are special requirements for sanitation or weather-tightness. The window is named Hope's Lok'd Bar Steel Factory Sash. Vertical sash bars are bulb



tee sections approaching the I-beam type of section in strength. In the Lok'd Bar joint, the flat tee horizontal muntin is threaded through the bulb tee both with the least distortion of the metal and the least detraction from solid bar strength. Ventilators are complete casement and frame units, solid welded at corners, reinforcing the sash where they occur. Hope's Lok'd Bar Factory Sash are bonderized and finished with baked-on coat of rush inhibiting primer.

#### SINK FRAME SYSTEM

**AB10718**

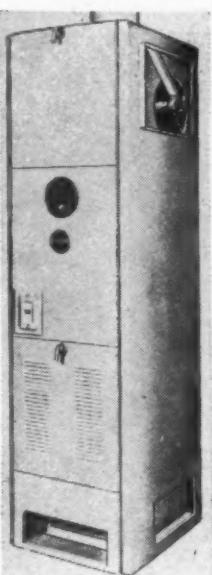
Walter E. Selck and Company, 223 West Hubbard St., Chicago 10, Ill., are marketing a "packaged" sink frame system which provides a self-sealing, watertight, sanitary sink frame. The system consists of a sink frame (available in 15 stock sizes plus other sizes to order); a set of lugs and screws to secure frame and sink bowl to the cabinet top, and four temporary clips with leveling screws for each corner of the sink bowl cut out to hold the bowl in place while lugs are

being attached. The frame which works with all types of top covering materials can be installed before or after cabinet top material is applied. Installation is simple and requires no special tools, scribing or precision work. The frame, itself, comes in anodized or alumilited finish.

#### PACKAGED CENTRAL HEATER

**AB10724**

A low-cost, compact packaged central heating unit which can be located on the same floor level as the rooms to be heated is the new product of the International Oil Burner Co., of St. Louis 10, Mo. Its revolutionary new design permits the circulation of a "carpet" of warm air throughout the living quarters at floor level. Thus, since warm air rises uniformly, the warmth is distributed evenly. This important circulation achievement is accomplished by forcing the warm air out of the bottom of the furnace rather than letting it escape from the top. The return air entering the top of the furnace is forced down over the surface of the combustion drum by means of a large circulating air blower. In this manner, maximum heat is extracted from the fuel burning in the efficient forced-draft pot-type burner. The manufacturer identifies this heater as the R9 Oil Burning Furnace.



#### AIR CHANGER

**AB10722**

To combat summer heat and add to the comfort of home, the Eagle-Picher Sales Co., Cincinnati, Ohio, recommended the installation of their new "Air Changer." This new unit draws the fresh night air from outdoors when the windows are open, and forces the hot, stuffy air out through the basement or attic. It is adaptable to basement and kitchen floor installations as well as attics. If installed in the attic, the air changer takes only 40 per cent of the ceiling opening and 65 per cent of the gable opening required for the usual propeller type attic fan. Powered by a ball bearing half horsepower motor and with all moving parts floated in rubber, it is mechanically as quiet as a refrigerator. By adjusting window openings, any desired degree of ventilation can be obtained.

#### RADIANTROL VALVE

**AB10712**

A combination balancing valve and air vent for radiant heating systems is shown here in a cutaway sample. It was developed by the Homestead

Valve Manufacturing Co., Inc., Coraopolis, Pa., and is expected to reduce initial installation costs of radiant heating systems because additional piping, fittings and welding required for air vents are eliminated. Radiantral Valve is

somewhat similar to a butterfly type control valve. It can be used with pipe coils buried as deep as 8 inches below the concrete surface. The stem extends from the valve to a brass floor plate 3½ inches in diameter. This traffic plate fits flush with the concrete floor and can be operated by foot. The valve disc is built into a wrought iron body, made of a short piece of pipe end-beveled to facilitate welding into a section of the heating coil. Venting a radiant heating system with this valve is accomplished by removing the brass floor plate and hollow stem, and turning a small cap screw on top of the valve bonnet which is drilled to permit escape of air from the piping system.

#### COTTON INSULATION

**AB1 725**

To meet the demand for completely enclosed, envelope-type insulation, The Gilman Brothers Co., Gilman, Conn., has developed a new type Cellulite—flame-proof cotton building insulation. The new Type E Cellulite



has a sturdy vapor seal on one side and a tough paper covering on the other. It is made in the same standard widths as the regular Type II Cellulite and will be packaged in cartons for easy shipping, storage and handling. The regular Type II Cellulite, which has the vapor seal only, will continue to be available through leading building supply dealers.

#### NEWTON SANDER

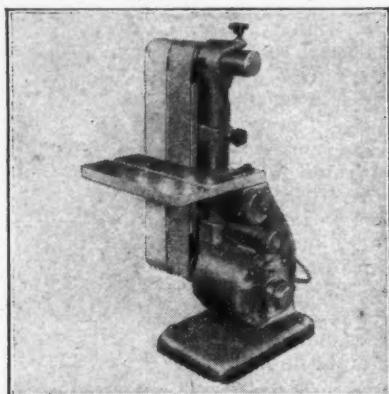
**AB10703**

The new Newton B-3 Sander being distributed by J. D. Wallace & Co., 136 So. California Ave., Chicago 12, Ill., is designed for a wide variety of wood, metal, and plastic sanding operations. In the position shown, the unit may be used for vertical sanding. With the column and belt tilted back, it may be used for angle-sanding, with

(Continued to page 146)

(Continued from page 145)

the table remaining in a horizontal position. By removing the worktable the belt may be rotated to a horizontal position and long pieces may be pushed over the top of it for edge sanding. One 6-inch wide belt or two 3-inch belts (one fine and one coarse)



will operate the sander for roughing and finishing operations on small pieces. The machine is fitted with a direct-drive motor,  $\frac{3}{4}$  H.P. single or three phase. Its sanding belt pulleys are rubber-faced, ground-true, and measure 3 inches and 4 inches in diameter.

#### MASONRY WATERPROOF COATING

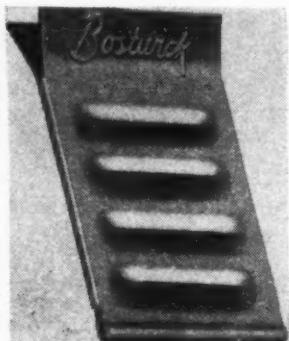
AB10706

A new substance called Agraseal designed to protect and seal porous masonry surfaces has been developed by Tamms Silica Company, 228 North LaSalle St., Chicago 1, Ill. Agraseal is applied with an ordinary scrub brush. When first applied, material penetrates deep into open pores. When it sets, a seal is established which withstands dampness, water, steam, alkali, sun, smoke, heat, cold, frost, and ice. Agraseal comes in powder form and mixes with water only. It is available in white, ivory cream, light buff, natural stone grey, yellow and light green.

#### WALL PLUGS

AB10713

Limited quantities of its wall plugs are being turned out by the Bostwick Steel Lath Co., Niles, Ohio. Made of corrosion-resisting, heavy gauge galvanized steel, Bostwick wall plugs



hold furring, door frames, window frames, cleats for fixtures or anything that may be nailed securely to a ma-

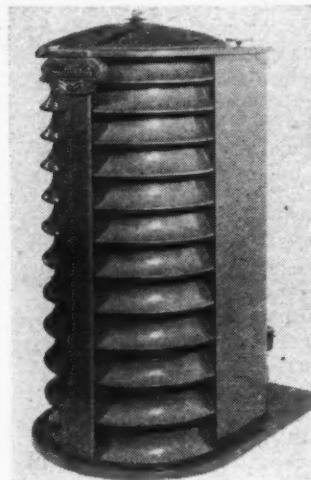
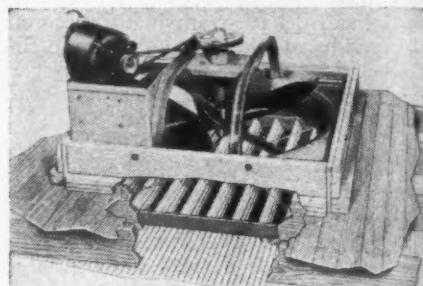
sonry wall. Closed at the side with a clincher seam, the wall plugs tightly grip a nail or a long wood screw. This wall plug which is  $2\frac{1}{4}$  inches wide by 3 inches high can be used with brick, hollow tile, concrete, or cement block.

#### SPACE HEATER

AB10720

The Winkler oil burning space heater, manufactured by U. S. Machine Corp., Lebanon, Ind., utilizes both direct radiation and orthodox hot air circulation principles. It will produce approximately 50,000 B.T.U.'s per hour from one-half gallon of oil on maximum burning, comfortably heating small homes where adequate air

motor. If desired, a 24-hour automatic control is available. The unit is furnished in three sizes with fans of 24-inch, 30-inch and 36-inch diameter. Because of its "pancake" design, the package can be installed in any home



circulation provisions are made. The unit combines radiant and convection heating for uniform warmth through a scientifically designed parabolic deflector grille, claimed to be an entirely new principle. Minimum burning rate is about  $1/16$  gallon per hour. The front deflector assembly slips off with simple hand pressure to expose complete burning chamber for easy cleaning.

#### VENTILATING FAN PACKAGE

AB10717

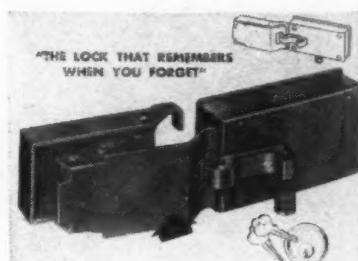
The new Silent Breeze "H.M." Ventilating Fan Package offered by the Holcomb & Hoke Mfg. Co., Indianapolis, Ind., consists of a Silent Breeze Ventilating fan, suction chamber, automatic ceiling shutter and electric

having 24-inch or more clearance between attic floor and roof. Installation requires cutting and framing of a suitable opening in the attic floor, installing the shutter, placing the fan unit in position, wiring, and where necessary, providing additional outlet louver area.

#### DOOR LOCK

AB10715

An ingenious door lock, being marketed through hardware outlets, has been developed by the Automatic Safe-T-Lock Co., 4600 So. Kedzie Ave., Chicago 32, Ill. It features a patented automatic safety latch which snaps into place when the door is opened, similar to the old style chains and latch. When the door is closed,



the lock automatically engages. A flick of the finger, inside the room, and the latch is easily released. When set in the extended position, the safety latch allows ventilation with com-

(Continued to page 156)

#### CHECK NUMBERS AND MAIL COUPON FOR INFORMATION

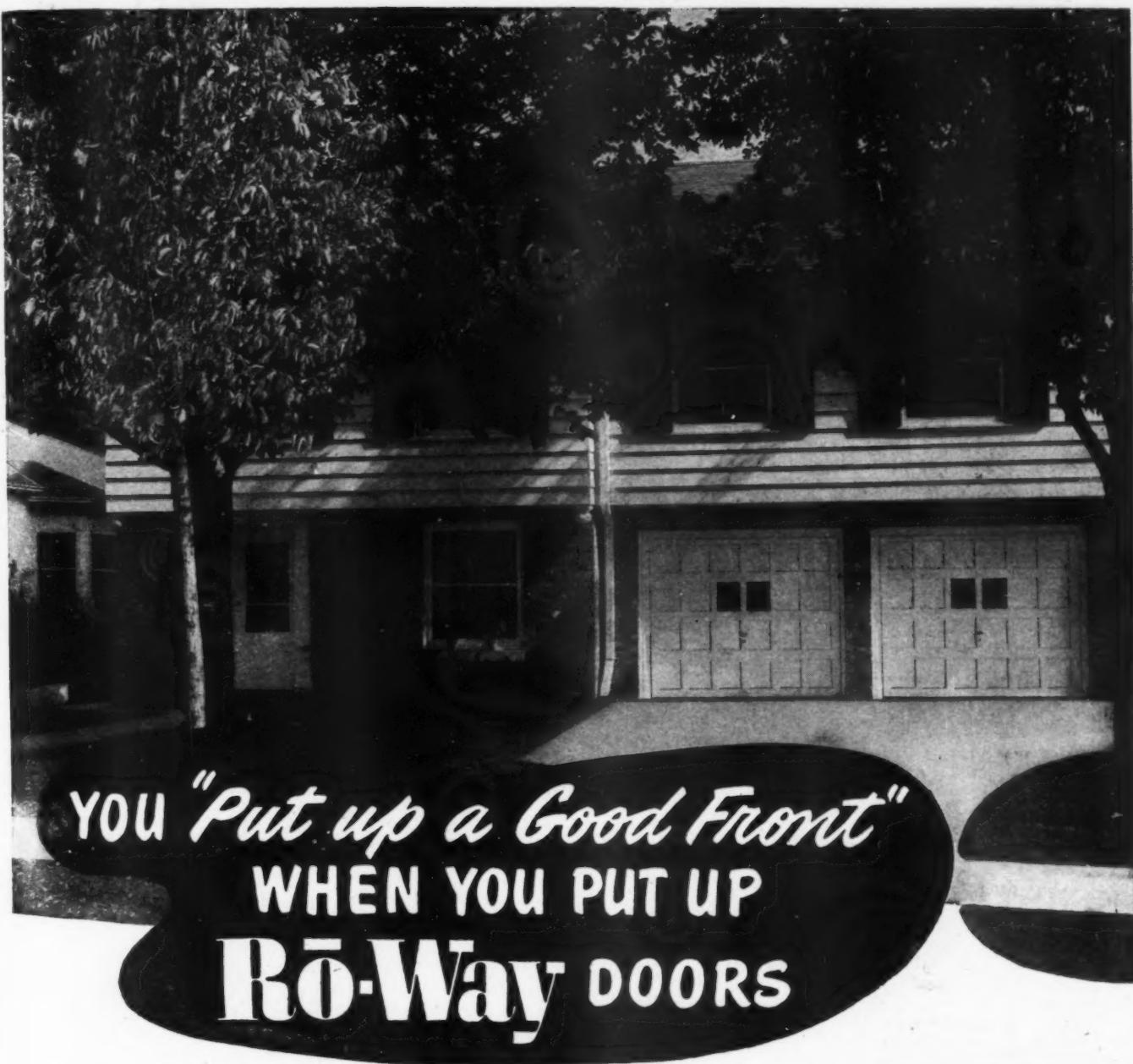
American Builder, 105 West Adams Street, Chicago 3, Illinois

NAME..... ADDRESS.....

CITY..... STATE.....

AB10701	AB10706	AB10711	AB10716	AB10721
AB10702	AB10707	AB10712	AB10717	AB10722
AB10703	AB10708	AB10713	AB10718	AB10723
AB10704	AB10709	AB10714	AB10719	AB10724
AB10705	AB10710	AB10715	AB10720	AB10725

When you address inquiries direct to manufacturers concerning a new product described here, please mention that you saw it described in American Builder.



**YOU "Put up a Good Front"  
WHEN YOU PUT UP  
Ro-Way DOORS**

Whenever you specify Ro-Way Overhead Type Doors, you know you're putting up a good "front" for your client. For Ro-Way has what clients want:

*Smart good looks*—just run your eye over those simple clean lines that blend so well with any style of architecture.

*Smooth, easy operation*—guaranteed by extra-value features like ball bearing double-thick tread track rollers.

*Husky construction*—engineered right into every Ro-Way Door.

*Ro-Way quality through and through*—from sheave wheel to Parkerized hardware, Ro-Way Doors are completely fabricated and built in the Ro-Way plant.

Add it up—and you've got "front doors" with plenty of backbone. And that can't help but make satisfied clients.

*Dependable Ro-Way sales and installation service available all over America. Write for free catalog.  
See our catalog in Sweet's.*



**Rowe Manufacturing Company, 727 Holton Street, Galesburg, Illinois, U.S.A.**

**There's a Ro-Way for every doorway!**

American Builder, October 1947.

Pittsburgh Plate Glass Company announces—

# A NEW HERCULITE DOOR-FRAME ASSEMBLY

... beauty, strength, ruggedness, and ease of installation in a "packaged" construction.

**T**HIS announcement is of vital importance to every architect, contractor, chain store executive, and retail merchant.

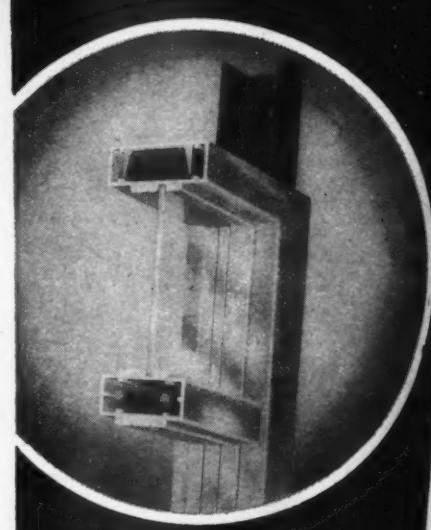
It presents for the first time a door-frame assembly—in one unit—which eliminates all problems of setting and fitting; saves time; and is one of the sturdiest and handsomest extruded structural shapes yet designed.

"Pittsburgh's" new Herculite Door-Frame Assembly is unique. Bothersome details about clearances and a score of other time-and labor-consuming matters, formerly encountered in such jobs, are entirely eliminated. This assembly replaces the complicated custom-made frames which required many different kinds of materials and the services of various trades to install.

Available in twelve standard

styles, this new door-frame assembly will satisfy almost every requirement. Constructed to accommodate standard Herculite Tempered Plate Glass doors, it is supplied complete with checking floor hinges and top pivots, ready to bolt into the rough building opening. All clearances on the frame and doors are controlled by accurate factory gauges. This adds up to the greatest simplicity of installation: When the building is ready to receive the doors, they are simply set on the hinge pivot, the top pivot is dropped into the top channel, and the entire structure is complete. It's as easy as that.

We urge you to mail the coupon for complete information about this revolutionary pre-fabricated door-frame assembly. Do it today.



Beauty, ruggedness and ease of installation create a unit of great appeal. The frame is made of extra-heavy extruded aluminum—highly polished and anodized. It is heavily reinforced with steel channels and tie rods, as partially shown here.



PAINT · GLASS · CHEMICALS · BRUSHES · PLASTICS  
PITTSBURGH PLATE GLASS COMPANY



Pittsburgh Plate Glass Company  
2337-7 Grant Building  
Pittsburgh 19, Pa.

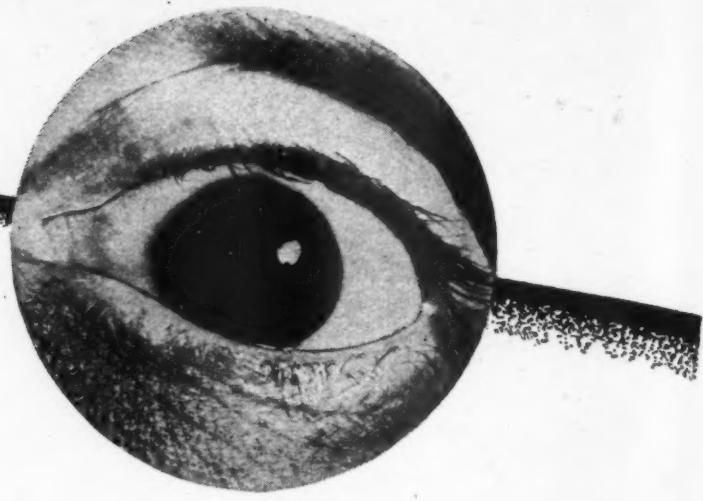
I would be interested in receiving your descriptive literature on "Pittsburgh's" new Herculite Door-Frame Assembly. I incur no obligation, of course.

Name.....

Address.....

City..... State.....

**1 Want to see eye-to-eye with your customers? Then sell the way they want to buy —on time payments.**



**3 To make a loyal friend, a good "customer, sell**

with ABC. Some firms have made as many as nine ABC sales to a single customer; five or six repeat sales are not unusual.

**4 Don't kick business away! Don't tell any-**

one to go look for a loan. Prospects sent loan-hunting invariably become price shoppers. So keep your customers: Sell with ABC.





**2 Here's a mighty attractive proposition**

for any customer: "No cash down, easy monthly payments." Offer these terms through the instalment note services of Allied Building Credits, Inc., and you follow the first rule of successful selling: "Make it easy to buy."



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when you sell with ABC. You get paid in cash, you tie up no money in open-book accounts. And—ABC passes on credit and makes the collections. Our services are for the building industry exclusively.

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SAINT PAUL 1, MINNESOTA  
Offices in Principal Cities





## Catalogs and HOW-TO-DO-IT INFORMATION

**357—STANLEY TOOLS CATALOG NO. 34**—This pocket-size handbook in 200 pages presents comprehensive description and complete specifications of the tools manufactured by the Stanley Tools, Division of The Stanley Works, New Britain, Conn. The woodworking hobbyist will be especially interested in pages 131-136. Here are listed primary tools for the home workshop, books on care and use of tools, and plan sets of household items available from Stanley.

**358—RADIANT PANEL HEATING**—published by Revere Copper and Brass Incorporated, New York, N.Y., attempts to answer in non-technical language such questions as: What are the advantages and disadvantages of radiant panel heating? What are the relative advantages of ceiling panels, wall panels and floor panels? What are the best methods of distributing the panel surface? Prepared primarily for the architect, builder or heating contractor who seeks a background sufficient to enable him to compare radiant panel heating with other types of heating systems, the book presents no conclusions and offers no recommendations. It presents in 36 pages facts of value to those interested in radiant panel heating.

**359—“THE INSIDE STORY OF THE YALE DOOR CLOSER**—How It Works" is the title of a cleverly prepared booklet put out by the Yale and Towne Mfg. Co., Stamford, Conn. Sprightly statements accompany line drawings to give the complete picture of the Yale door closer, and why it allows doors to open easily and close slowly.

**360—“AN ANALYSIS OF RESIDENTIAL FUEL SAVINGS**—Resulting From Insulation" is the subject of a 16-page booklet being distributed by the Insulite Division, Minnesota and Ontario Paper Co., 500 Baker Arcade Bldg., Minneapolis 2, Minn. Pertinent information on fuel savings gained by using varying amounts and different types of insulation in residential construction is illustrated with easy-to-use charts and tables giving cost figures.

**361—GLUED PREFABRICATED HOUSES**—a booklet published by the Technical Service Dept., Casein Co. of America, 350 Madison Ave., New York 17, N. Y., covers the "whys, wheres, and hows" of glue use in prefab operations. The latest methods of applying the bonding agents, and up-to-date techniques for applying pressure and speeding the curing of the adhesives are described. A chart listing standard conditions for best results with casein glues is an outstanding feature.

**362—PLANNED LAUNDRIES FOR APARTMENT HOUSES**—are described and illustrated in an eight-page booklet issued by the Laundry Equipment Dept., Westinghouse Electric Appliance Division, 246 East 4th St., Mansfield, Ohio. Design data includes tables which give space requirements, and hot water, electric and gas loads needed for installing laundry centers in apartment houses and other multiple dwellings. Ventilation requirements for clothes dryers are discussed, and typical model laundries are pictured.

**363—MARLOW PUMPS**—Self-priming centrifugal, diaphragm and plunger are the subject of Bulletin No. G-46 issued by Marlow Pumps, Ridgewood, N. J. The basic models of the Marlow line are illustrated and briefly described. A resume of their performance records to date, together with suggested uses, is included.

**364—YOUNGSTOWN KITCHEN CATALOG**—featuring 18 full color pictures of suggested kitchen arrangements as well as pictures of the Youngstown line is available from Mullins Manufacturing Corp., Warren, Ohio. Various features of Kitchenaider cabinet sinks, and base and wall cabinets are illustrated. Also included is information on the use of the Min-a-Kitchen and on kitchen planning.

**365—“THE CONTRIBUTION OF VERMICULITE**—to Fire Protective Construction" is the subject of a booklet being distributed by the Universal Zonolite Insulation Co., 135 So. LaSalle St., Chicago 3, Ill. Compiled by the Vermiculite Research Institute, this summary on constructions incorporating vermiculite includes descriptions of recently conducted tests on vermiculite plaster used to fireproof steel beams and columns.

**366—GARBAGE ELIMINATOR**—which automatically macerates all food waste and flushes them into the sewage system with a swirling, cleansing action is the subject of a 4-page pamphlet issued by the manufacturer, Thomas W. Berger, Inc., 6 East 4th St., Cincinnati, Ohio. Outstanding features of the unit, which was developed by a well known laboratory, are described and illustrated.

**367—STRIATED PLYWOOD PANELS**—are described in an illustrated brochure released by the United States Plywood Corp., 55 West 44th St., New York City. Striations in the panel relieve surface tension and provide interesting and varied visual effects, the brochure points out. Besides wall and ceiling applications, this panel, known as Weldtex, may be used for original treatment of built-in furniture, cabinets, bar fronts and counters.

**368—TILE AND CAST IRON CONDUIT SYSTEMS**—for underground steam, return, hot water and oil lines are the subject of a 4-page standard file-size folder published by the Ric-Wil Co., Cleveland, Ohio. Engineering data such as trench dimensions and pipe locations recommended for each size and type of conduit, and the capacities of the various conduit types and sizes for combinations up to five pipes are given.

**369—KEWANEE BULLETIN NO. KBH674**—published by the Kewanee Manufacturing Co., Kewanee, Ill., gives detailed specifications on the company's complete truck body and hoist line. Illustrations of standard and special type truck bodies are accompanied by descriptive text, and suggested uses.

**370—ARC WELDED BOW STRING ROOF TRUSSES**—are discussed in the latest piece of technical literature released by The Lincoln Electric Co., Cleveland 1, Ohio, for incorporation into their "Studies in Structural Arc Welding" data file. Mechanical drawings illustrate the text in this four-page piece, which carries the architectural file identification No. 13c2.

**371—NORTON FLOORS**—of Alundum Terrazzo Aggregate, Alundum C.F. Aggregate and Alundum Tile are described and illustrated in an 8-page booklet issued by the Norton Co., Worcester 6, Mass. These floorings, which are non-slip, were developed by Norton engineers. Specifications and recommended uses are illustrated with pictures of actual installations.

### SERVICE COUPON—CLIP and MAIL to CHICAGO

Readers Service Department

(October, 1947)

American Builder,

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WHEN I HANG'EM  
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**THREE HINGES**

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THE STANLEY WORKS  
NEW BRITAIN, CONN.

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REMEMBER . . . THREE HINGES TO A DOOR

HARDWARE • HAND TOOLS • ELECTRIC TOOLS

# Picture Windows of Steel...



In construction products **CECO ENGINEERING**

.....

# that Breathe and are Beautiful too...

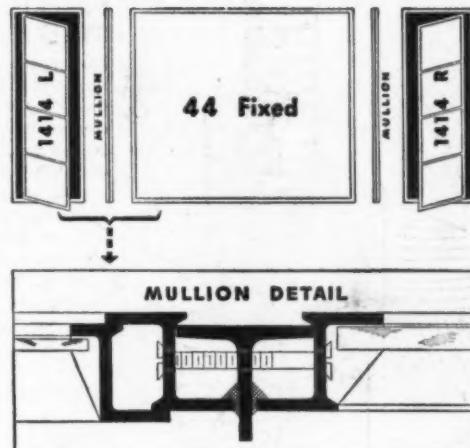
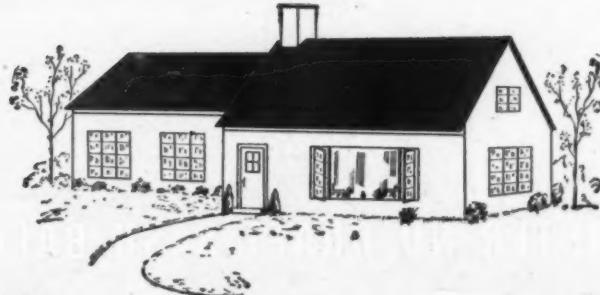
When picture windows are discussed you often hear the remark—"They're beautiful but have limited functional use." In the past, picture windows have been beautiful but that's about all. Other than letting in light and keeping out the elements they had no utility. Now Ceco offers picture windows of steel that are not only beautiful but have full utility, too. This comes from controlled ventilation. Yes, picture windows of steel that breathe. That capture and control every stray breeze. That turn any amount of fragrant fresh air into the home.

And best of all, these picture windows are made from easy-to-install standard Ceco casements. Annoying delays are eliminated—no waiting for special frame work. These are *stock* windows. They are easy to operate and always fit—no sticking, warping, or swelling. No fitting, planing or weather-stripping. Cost? Lowest of all installed. Yes, for the greatest utility ever and breathtaking beauty, too, specify Ceco picture windows of steel—an ultra handsome detail for any type of architecture.

## CECO STEEL PRODUCTS CORPORATION

GENERAL OFFICES: 5701 W. 26th Street, Chicago 50, Illinois

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### HOW TO MAKE A PICTURE WINDOW from CECO Stock Casements

Here's one of many combinations. Order a Ceco stock casement 44 Fixed with muntins removed as illustrated. Combine with Ceco stock casements 1414-Left-Hand and 1414-Right-Hand by use of Ceco standard mullions. There you have a picture window all ready for glazing.

This simple way of assembling reduces cost. The slender lines add beauty, let in 30% more light, too.



See Ceco catalogs in Sweet's Architectural File  
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**CECO  
STEEL**

*makes the big difference*

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METAL FRAME SCREENS • ALUMINUM STORM WINDOWS • MEYER STEEL-FORMS • REINFORCING STEEL • STEEL JOISTS AND ROOF DECK • METAL WEATHERSTRIPS • METAL LATH AND ACCESSORIES • HIGHWAY PRODUCTS



For better weather protection: for perfect window operation . . .

## MASTER NO-DRAFT SASH BALANCE

U.S. PATENTS 2158963

2101577

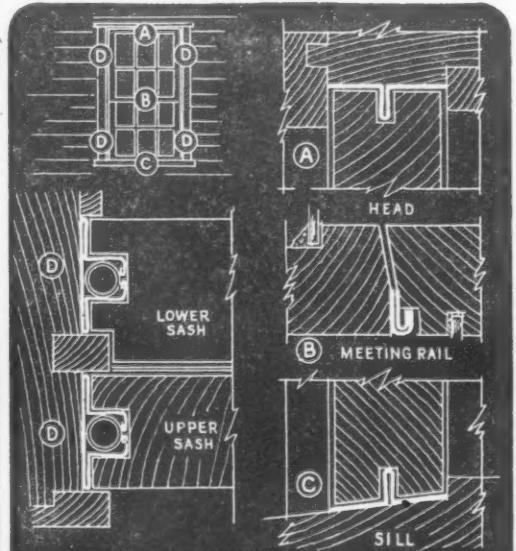
- GIVES SASH FINGER-TIP CONTROL
- ELIMINATES WEIGHTS AND PULLEYS
- PREVENTS BINDING AND STICKING
- PROVIDES PERFECT WEATHER-STRIPPING

Here is the modern, patented and time-tested equipment which provides the most practical and economical protection and operation for double-hung windows. For any window, old or new, Master No-Draft Sash Balance can be installed quickly and easily for life-time service and satisfaction.

Properly tempered, correctly tensioned springs give upper and lower sash perfect balance. Metal housing, self-adjusting to the shrinking or swelling of the wood, provides metal runways for the sash that never need painting. They will not rust. They eliminate sticking, binding and rattling.

Master No-Draft Sash Balances act as a perfect weatherstrip for both sides of the window. For the top, bottom and meeting rail, Master cross strips are recommended as shown below.

For new, plank-frame windows or old box-frame windows of any size, save money, time and labor... get the facts now about Master No-Draft Sash Balance. Use the coupon below.



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Chicago, 39, Ill.

Please send me, without obligation,  
complete information about Master  
No-Draft Sash Balance.

Name.....  
Address.....  
City.....  
State.....

MAIL THIS COUPON TODAY

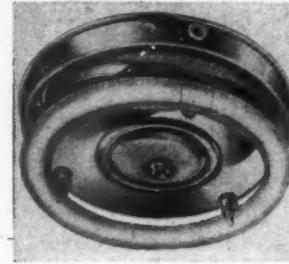
### NEW PRODUCTS

(Continued from page 146)

plete security. An all-steel bolt with spring-tension button control keeps door closed. Both the safety latch and bolt may be opened from the outside with the key.

### FLUORESCENT CEILING FIXTURE AB10704

A new and improved fluorescent ceiling fixture which features recessed Plexiglass lampholders and an accessible starter is being produced by Homcraft Electronic Products, 1213 S. Kedzie Ave., Chicago 23, Ill. Available in triple-plated chromium as well



as white enamel, the fixture is designed to diffuse clear, even light throughout a room. It carries a 32-watt fluorescent lamp, 12 inches in diameter, whose light out-put is the equivalent of an ordinary 100-watt bulb. Easy to install, the fixture fits flush to the ceiling. It is approved by the Underwriters' Laboratories.

### CMC RADIAL SAW AB10714

The new CMC radial saw features a ball-bearing-roller head which allows the blade to move smoothly and evenly into the work assuring accurate production and reducing operator fatigue. The ram-type arm, moving through the roller head, frees the

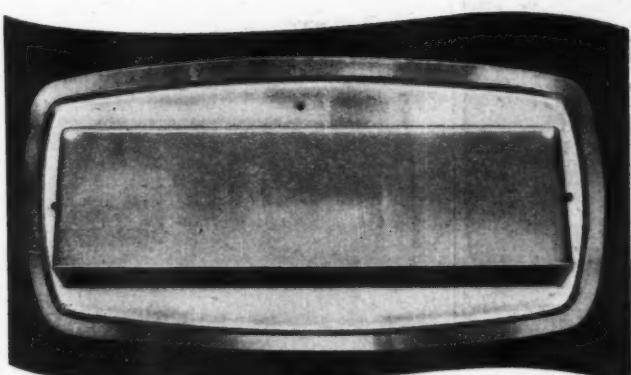


work table for the shifting of material and gives the operator a clean, unobstructed view of all layout marks. An ingenious set of simple controls, for setting the saw, that are within easy reach of the operator can be entirely controlled by him without making it necessary for him to leave his work at the front of the machine. This saw is manufactured by the Construction Machinery Sales Co., Waterloo, Iowa.

(Continued to page 158)

*New! Attractive!*

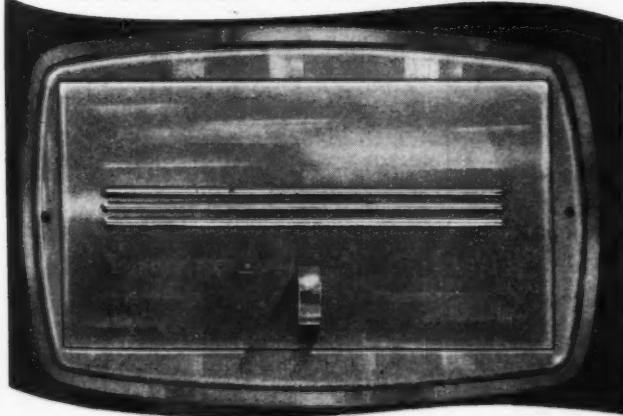
# Leigh BUILT-IN MAIL BOXES



HOOD FOR INSIDE — STYLE "D"



OUTSIDE DOOR — STYLE "D" AND "W"



INSIDE DOOR — STYLE "W"

#### Other Leigh BUILDING PRODUCTS —

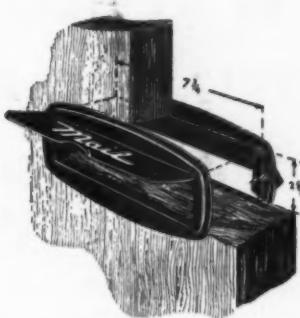
Ornamental Shutters — Milk and Package Receivers — Clothes Chute Doors — Dust Chutes — Attic and Roof Ventilators — Foundation and Brick Ventilators — AIR CONTROL Registers and Grilles.

Mail Boxes for wall or door installation

LEIGH Built-In Mail Boxes are a high quality, smartly styled line of mail boxes — available at a lower cost than the old fashioned outside hanging mail box. Adds convenience, protection and appearance to the modern home. Stamped of heavy gauge material — no breakable castings. Wind and rainproof construction. Available in two styles for wall and door installation.

#### Style "D"

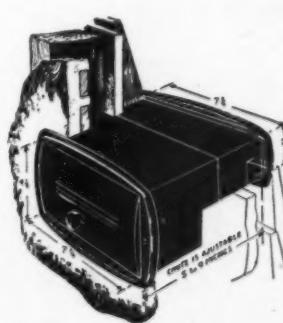
##### DOOR INSTALLATION



The style "D" Mail Box unit consists of outside mail door and inside hood. Easily installed in any door — simply cut  $7\frac{3}{4}'' \times 2\frac{5}{8}''$  opening in door and fasten outside door and inside hood on each side of opening. Installation screws furnished. Built of heavy gauge steel finished in Dull Brass baked Enamel. Also available with solid aluminum outside mail door — Style "DA."

#### Style "W"

##### WALL INSTALLATION



The style "W" Mail Box unit consists of three parts — outside mail door, inside door and adjustable tin plate box. The telescoping box is adjustable for any standard frame or brick veneer construction. Easily installed. Box holds several days mail. Installation screws furnished. Built of heavy gauge steel finished in Dull Brass baked Enamel. Also available with solid aluminum mail door — Style "WA".

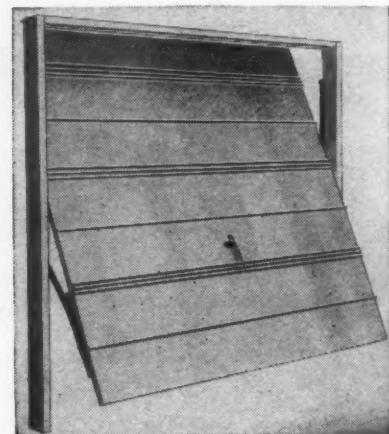


Styled and Built by  
**AIR CONTROL PRODUCTS, INC.**  
COOPERSVILLE MICHIGAN

(Continued from page 156)

**ALUMINUM GARAGE DOOR AB10719**

The heavy gauge aluminum panels of the Wahlfeld featherweight garage door are mounted horizontally on a sturdy, rigid wood frame, giving the door a modern appearance which blends with the design of the modern



# Nu-WAY WEATHER STRIP

**THE EASIEST STRIP TO SELL...**

... because it's  
**THE EASIEST  
STRIP IN THE  
WORLD TO PUT ON!**

Here's one weather strip that any inexperienced clerk can sell quickly and intelligently. Here's one strip that any customer can install with perfect results. Here's one strip that serves every purpose on any type of door or window, either double hung or swinging.



**MACKLANBURG-DUNCAN CO.**  
OKLAHOMA CITY 1, OKLAHOMA

**Handy Display Carton  
Takes Little Space —  
MAKES BIG SALES!**

This attractive, colorful carton contains twelve individual 20-foot rolls of Nu-WAY Weatherstrip, each with sufficient nails and instructions for installing. Get ready for the fall weatherstrip business by ordering your supply now.

*Sold Only Through Legitimate Hardware Stores, Building Supply Dealers and Lumber Yards.*

home. The door, which weighs only 84 pounds, is easily operated and requires only 2 inches of headroom. When open, it is entirely within the building. Although no pulleys, weights, or chains are used in its construction, the door is perfectly balanced and weather-tight. The panels, which are replaceable, can be painted. Made by the Wahlfeld Manufacturing Co., Peoria 2, Ill., the door is available in two sizes.

**BASEBOARD RADIANT PANELS AB10710**

Two models of baseboard radiant panels are being produced by the American Radiator & Standard Sanitary Corp., P.O. Box 1226, Pittsburgh 30, Pa. One model, identified as Type "R" is a radiant panel and the other model, Type "RC," is a radiant-convector panel. These panels are 8 inches high, 2 inches thick, and are



made in two lengths, 12 inches and 24 inches. Designed to fit snugly against the wall when installed, the panels can be partially recessed, thereby saving additional floor space. Installed along one or more sides of a

(Continued to page 160)

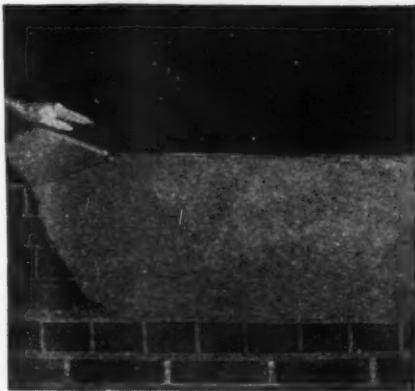
# BRIXMENT Encourages BETTER WORKMANSHIP!

Really first-class brickwork calls for parging or tooling the inside surface of the face brick, as a final protection against the possibility of leakage. The photographs below give full details for both procedures.

No. 6 OF A SERIES—

## PARGING OR TOOLING THE BACK OF FACE BRICK

### PARGING



The face brick should be back-plastered with not less than  $\frac{1}{8}$ " of mortar before the back-up units are laid.



If the back-up units are laid first, the front of the back-up units should be plastered in the same way.



Before backplastering, however, all mortar joints should be cut flush. Parging should not be attempted over protruding mortar joints.

### TOOLING



As an alternate for backplastering, the joints on the back of the face brick may be tooled to give a concave finish.



This encourages the bricklayer to fill the head joints, since proper tooling cannot be done if mortar is lacking.



Therefore before the tooling can be completed, it is necessary for the bricklayer to point up the open joints.

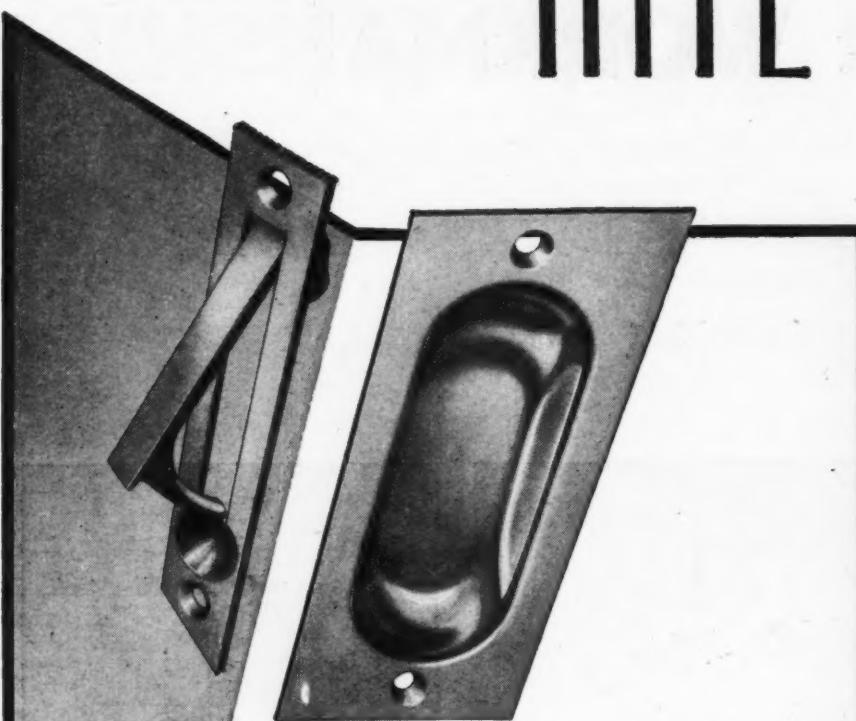
Because Brixment is more plastic and works easier, it actively encourages the bricklayer to do better work. The brick are bedded more quickly, with full joints, and without excessive tamping. Parging and tooling are done in minimum time, with minimum effort.

In addition to greater plasticity, Brixment also has higher water-retaining capacity and bonding quality, greater resistance to freezing and thawing, and freedom from efflorescence. Because of this combination of advantages, Brixment is the leading masonry cement on the market.

**LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY**

QUALITY FOR A HALF CENTURY ADAMS-

RITE



**RITE SLIDING DOOR HARDWARE WINS APPROVAL** when shown. It is good-looking, substantial, functional. We manufacture a number of sizes and styles of both cast and forged brass and bronze Flush Pulls which may also be installed as window lifts. For heavy doors we make a concealed grip Edge Pull which fits flush in the leading edge of the door . . . a light spring retracts the pull when not in use. Jamb bolts, designed as locking devices, are likewise made in several types for large or small sliding doors. Be sure to recommend the RITE sliding door hardware and you'll make friends.

**RITE BALL LATCHES**

Adjustable for shrinkage or warpage. Two sizes, small enough for cabinet doors, large enough for all standard doors.

**RITE BRASS SURFACE BOLTS**

are extruded in patented gilder shape— $\frac{3}{8}$ "— $\frac{1}{2}$ "— $\frac{5}{8}$ " widths. Adjustable on job for throw required.

**RITE JAMB BOLTS**

In two styles—of solid brass. Mount in rear stile of door to positively lock a door from inside only. Useful on windows.

QUALITY HARDWARE FOR



NEARLY HALF A CENTURY

**ADAMS-RITE MANUFACTURING CO.**

540 WEST CHEVY CHASE DRIVE, GLENDALE 4, CALIFORNIA, U. S. A.

(Continued from page 158)

room in place of the wood baseboard, these smooth finish cast iron panels can be painted to match surrounding walls or woodwork.

**ALUMINUM STORM-SCREEN UNIT AB10702**

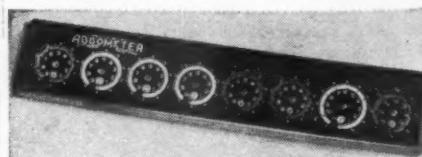
An all-aluminum combination storm-panel and screen unit is being produced by Ceco Steel Products Corp., 5701 W. 26th St., Chicago 50, Ill. A self-storing feature allows the screen and the two storm panels to stay right in the frame all year, thus eliminating the chore of taking down and putting up storm windows and



screens each season. Closing sections provide weathertight fit for any double-hung window, regardless of size and even if the window is out of plumb. The slender lines of the window harmonize with any style of architecture, and the finish never needs painting or refitting.

**BUILDERS ADDING MACHINE AB10703**

An adding machine which adds and subtracts in feet and inches and was designed especially for builders, architects and engineers has been put on the market by the H & M Sales Co., P.O. Box 515, Rochester 2, N.Y. Patterned in the shape of a ruler, the



machine consists of a series of dials on which to figure feet, inches, and fractions separately. An 11-inch rule can be used for drawing lines or following figures to be added. The machine is ideal for adding building materials, working on plans, distances or anything connected with the building trades.

a new way to reduce housing costs



## ...the industry engineered house in brick and tile

Today the big news in housing is the Industry Engineered Housing Program.

This development is the result of the combined efforts of the building industry. It promises a quality house at lower cost because of efficient planning and savings in labor and materials.

Modular coordination makes this house possible. Production and coordination of materials and equipment in modular sizes save time, labor, materials and money in the finished house.

To The Brick and Tile Industry, modular planning is not new. It was the first complete industry to accept the idea of modular coordination. Now—this industry is ready to help you build

homes to the plans and specifications of the Industry Engineered Housing Program.

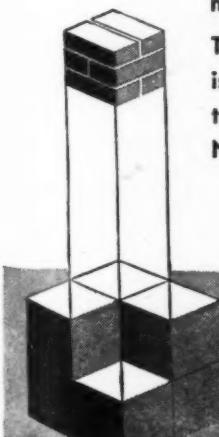
These homes incorporate the traditional beauty, permanence, fire-safety, and long-range economy of brick and tile with the features of the Industry Engineered House. These plans will help you meet the demand for this house more quickly—more accurately.

A new book of six Engineered houses in brick and tile with a complete analysis of the adaptation of brick and tile to Engineered homes is available for 25¢. Address Structural Clay Products Institute, Dept. AB-10, 1756 K Street, N. W., Washington 6, D. C.

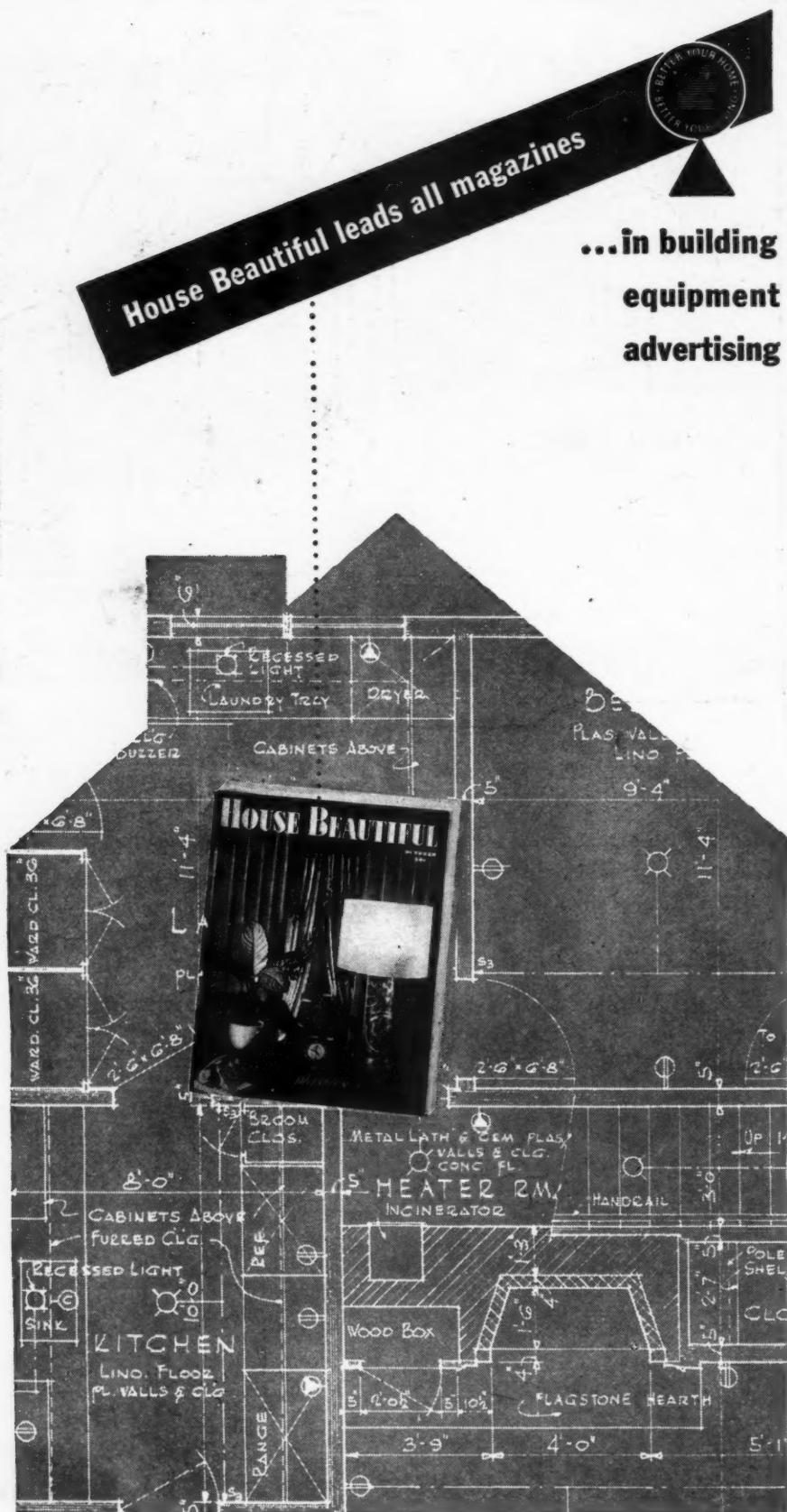


Now it will be built with Modular-Designed

**BRICK AND TILE**



*Post*  
Source: "Leading National Advertisers," June 1947.



House Beautiful leads all magazines

...in building  
equipment  
advertising

### Firm Changes Name, Location

THE Arr-O-Line Co. has changed their firm name to the A. D. Hempill Co., and have moved their executive offices from Minneapolis to Lake City, Minnesota.

### KITCHEN PLANNING

(Continued from page 97)  
around the sink, with stack counter, refuse receptacle and drainboard adjoining; and cabinets for dishes within easy reach.

Since water is used for both food preparation and cooking this center should always be located between the food storage and preparation center and the cooking and serving center.

A generous counter surface, so necessary in the cleaning-up process, flanks both sides of the sink. Wherever possible, sinks should be equipped with double drainboards. A backsplasher from three inches to eight inches high should be used back of the sink proper. Lower ones of from one inch to three inches at the back of all counters make cleaning simpler.

In planning cabinet storage requirements the number of bedrooms is generally accepted as the basis for determining how many adult persons the home is designed to accommodate—how many persons can live normally in the home. This presumes that the master bedroom accounts for two adults, and the other bedrooms for one each. In other words, the number of bedrooms plus one establishes the number of persons normally considered living in the home.

Research has revealed that approximately six square feet of wall cabinet storage space must be allowed for each normal occupant, plus twelve square feet to accommodate entertaining and accumulation. Thus the wall cabinet storage is calculated: six square feet of shelf area times three persons equals 18; 18 plus 12 square feet equals 30 square feet.

Base cabinet storage space is calculated on a linear front foot basis, because the many variations in this type of storage make a square-foot-shelf-area calculation needlessly complicated.

Base cabinets should occupy all the space beneath upper wall cabinets not required by the range, refrigerator, and sink. An exception to this is when the maximum amount of linear footage of base cabinet storage is available, with shortage of wall cabinet storage, due to window locations.

In such cases, the difference can be made up by installing a wall cabinet, or a storage closet elsewhere in the room—usually in a corner. It is unnecessary to install another base cabinet under such wall cabinets. The important thing is to reach the balance of storage and shelf space above the counter surface.

Generally kitchens lend themselves to one of seven commonly accepted types of arrangement, which may be  
(Continued to page 164)

**Conceal Joints and Edges  
of Insulating Boards  
Quicker, Easier, Better**

Another  
New Series  
of  
**CHROMEDGE**  
REG. U.S. PAT. OFF.  
Metal Trims



**C**LLEAN-CUT, modern lines . . . quick, easy, drive-in application . . . permanent anchorage without screws or nails . . . full concealment of joints and edges. Features like these make these new Chromedge anchor-wedge trims first choice for installation of  $\frac{1}{2}$ -inch insulating boards. The barbed shanks grip firmly into the board when the trims are tapped in place—providing lasting neatness with minimum installation time.

906 covers joints formed when two panels are butted together on a flat surface. 904, for outside corners, covers the raw edge of the overlapping panel as well as the corner joints.

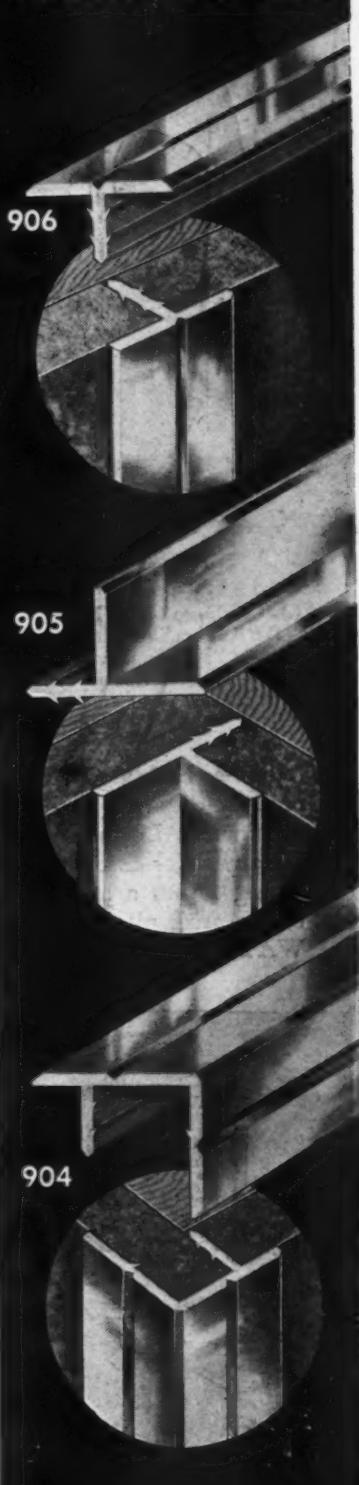
905 provides matching concealment at inside corners.

*Write for complete details.*

More Than  
**450 SHAPES**

The **B&T** Metals Company  
Columbus 16, Ohio

You get a wide choice of correct trims for every type of floor and wall installation when you use Chromedge—B & T's famous line of stainless steel and extruded aluminum alloy trims.



DISTRIBUTED THROUGH AUTHORIZED WHOLESALERS ONLY

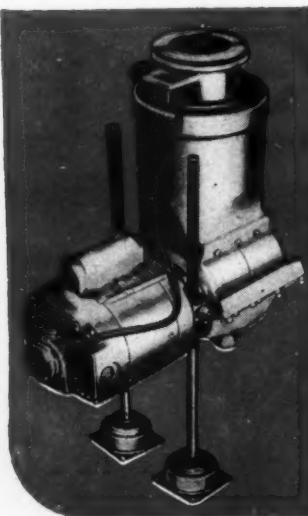
# A MUST FOR THE MODERN KITCHEN



\* ALL Garbage Goes DOWN THE DRAIN! Sensational SANI-WAY pulverizes all garbage . . . swishes it into sewer in a matter of seconds.

## ELIMINATOR

Whether building or re-modelling, you MUST know about this new, entirely different garbage eliminator. There is no other like it! It eliminates ALL food wastes—right at the sink. This new SANI-WAY fits any sink—cast-iron, formed steel, enamel, or stainless metal—providing it has a standard  $3\frac{1}{2}$ " drain. Just put ALL the garbage—bones, fruit pits, rinds, everything—DOWN THE DRAIN. SANI-WAY pulverizes all garbage, swishes it into the sewer in a matter of seconds. That's all!



THOMAS W. BERGER, INC.  
Cincinnati 2, Ohio

Gentlemen: Please send me more information about SANI-WAY! No obligation.

Name \_\_\_\_\_

Address \_\_\_\_\_

THOMAS W. BERGER  
INCORPORATED  
6 East Fourth Street,  
CINCINNATI 2, OHIO

(Continued from page 162)  
modified to suit the size and shape of the room, the location of doors, windows and so forth. They are: 1) U-shape; 2) U-shape, broken; 3) L-shape; 4) L-shape, broken; 5) Two wall, or Pullman; 6) One wall; and 7) Individual center.

### STOCK WOODWORK

(Continued from page 137)

through personal contacts, and by means of surveys made in the industry. The company's research and standardization departments are continually working on improvements and developing new products so that the Bilt-Well line will always be present-day perfection. The company already has a number of patents and patents applied for to cover the products in their line.

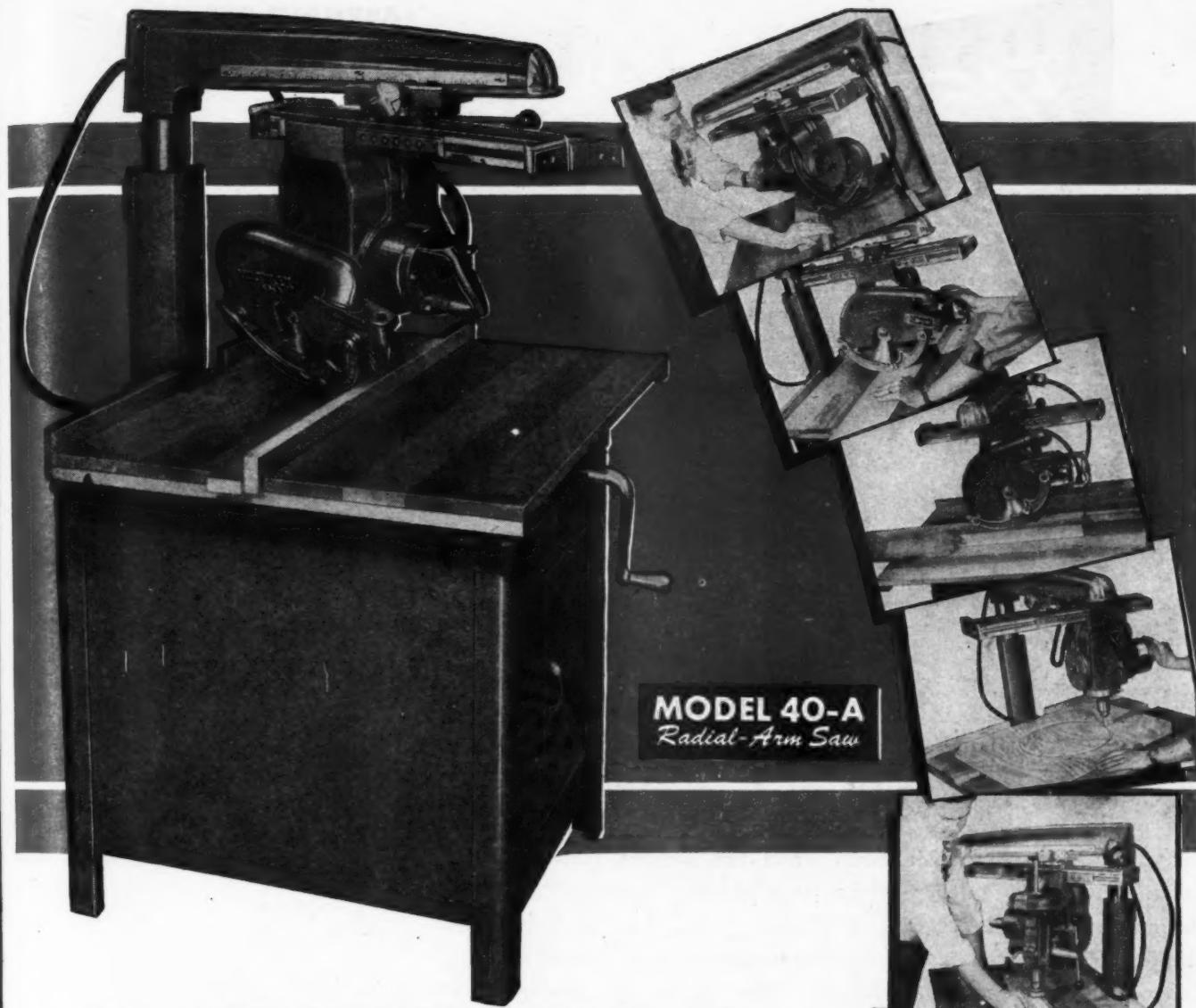
The new Bilt-Well line is complete from basement windows to attic louvers. Superior windows, Nu-Style kitchen cabinets, entrances, and many other items in the line are simple to put together and install for they are pre-fit at the plant. Easy-to-understand instruction sheets are included.

Another step towards low cost and easy installation with a minimum of labor is that many of the products are designed as complete units, such as the Superior Unit window, which includes both the window and the frame. This unit features a patented weatherstrip which is put in at the plant and allows the sash to be installed or removed at any time during construction without removing the weatherstrip. This means that the windows can be removed, and storm sash used to close a building while it is still under construction. This special weatherstrip also automatically compensates for any swelling or shrinking of the sash. Superior windows are balanced in all positions with an overhead spring balance guaranteed for the life of the building.

The Nu-Style kitchen cabinet units are designed in harmony with the styling of modern ranges and refrigerators, and they are as practical as they are beautiful. The smooth surfaces of the units are easy to keep clean, doors and drawers are dust-proof, and the principal feature is that the units are made in graduated stock sizes so that they can be installed to fit any size kitchen.

Entrance frames, large and small, are each furnished as a unit with several designs of heads which fit a standardized base. The frames are adjustable to various sizes of door openings, and to any type of wall construction. Pilasters are reversible, one side is fluted and the other side is plain.

Products in the line are carton packed or bundled to help keep down the cost of handling and storing and to insure clean products when they reach the customer. Actually, over half of the products in the line are carton packed. Each carton is clearly marked with the size and design of the product and the Bilt-Well trade-mark.



## SIMPLIFY YOUR LABOR PROBLEM with a MULTIPLEX

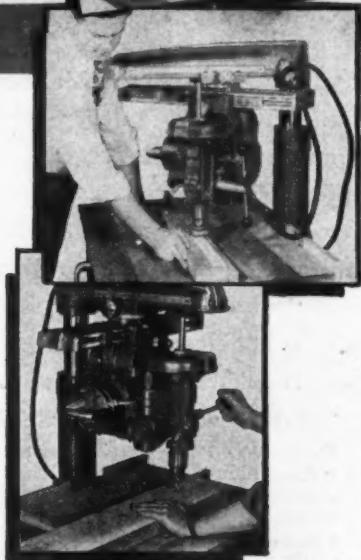


When good men are scarce and wages high -- reduce your man-hours, increase your output with this most versatile of radial arm saws.

Don't take our word for it -- a demonstration will convince you that you need this modern, versatile equipment -- and that it will soon pay for itself in time and money saved.

Write for full information and name of nearest dealer.

**RED STAR PRODUCTS, INC.**  
3455 VEGA AVENUE, CLEVELAND 13, OHIO U. S. A.



The Multiplex Models 30A and 40A can be quickly and easily converted into high speed, ball bearing radial arm drill presses attached to, and driven by, the saw motor. This optional equipment can be used for drilling, shaping, carving, mitering, circle mitering, sanding, tenoning, planing and other operations.

CROSS CUT BEVEL-CROSS-CUT RIP BEVEL-RIP MITER COMPOUND MITER - A BUILT  
CIRCLE ROUT DRILL TENON SAW BARREY SLOW DADO RASTER NOTCHING



## with a Stanley W-7 Safety Saw

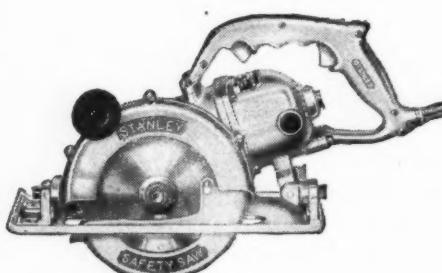
Let your carpenters use their heads. Let a Stanley W-7 Safety Saw do the muscle work. This rugged, powerful electric saw sends a combination rip and cross cut blade fast, clean and true through the toughest, greenest beams and framing pieces. Made to handle easily in any position, thanks to perfect balance

and the Duplex Handle. Makes straight cuts up to  $2\frac{1}{2}$ " and bevel cuts up to  $1\frac{1}{8}$ " at  $45^\circ$ . Safety guard keeps edge covered at all times.

Write today for descriptive literature... and ask your distributor for a demonstration. Stanley Electric Tools, 492 Myrtle St., New Britain, Conn.

**Stanley W-7 Safety Saw** . . . heat-treated aluminum alloy base for strength with minimum weight; tilting base; trigger switches arranged for independent use according to grip; operates on A.C. and D.C.

Multiply the usefulness of your W-7 Saw with a Stanley Adjustable Saw Track No. 158. Makes your W-7 a real production saw for multiple cutting of lumber to exact size every time without marking . . . square, bevel or mitre cuts. Structural steel welded track, easily mounted, dismounted and adjusted.



# STANLEY

Trade Mark

HARDWARE · HAND TOOLS · ELECTRIC TOOLS

### ASPHALT SHINGLE PRODUCTION

(Continued from page 140) processes, for example, have raised the saturation of the felt to a point where at least 95 per cent of the voids are filled with protective, weather-resistant asphalt.

The asphalt coating which covers and protects the saturated felt has also been improved. The prevalent practice is to blend coating asphalt with weather-resistant materials as a reinforcing agent. Just as the wearing quality of a tire of rubber is improved by the introduction of properly controlled quantities of reinforcing agents, so it is with coating asphalt. Extensive research and tests by manufacturers and the U. S. Bureau of Standards establish proof that the introduction of reinforcing and stabilizing agents to the protective coating materially improves its resistance to the elements. Weatherometer tests which duplicate varying conditions of heat and cold indicate that asphalt shingles and roll roofing, as made today, have longer life expectancy.

Increased popularity and use of the multi-tab strip shingles has made application easier. While providing a sound weather-tight roof, they cut down the labor-time required for application. Today, only 80 units are required to cover 100 square feet of roof area as compared to 100 units formerly needed. Manufacturers are today advocating the use of six rather than four nails as a means of more securely anchoring three-tab, square-butt strip shingles to the roof deck.

In recent years, the industry has developed several types of shingles designed especially for areas where high winds are prevalent. These shingles, along with better methods of fastening, reduce to a minimum the possibility of shingles being damaged by the wind. Any one of three methods are advocated, though the use of six nails in three-tab, square butt strip shingles, and cementing down of the exposed tabs near the rake and eaves generally will give satisfactory results:

- 1) An interlocking shingle—one shingle interlocks with another to form a wind-tight surface.
- 2) The mechanical staple type—staples through the exposed tabs tie the shingles to the roof deck and to one another.
- 3) The use of asphaltic cement—placed beneath the exposed tabs, wind is prevented from getting under the shingle to rip and tear it.

Longer life also has been added by extensive study resulting in the proper embedding of granules in the asphalt coating and the correct grading of fine, medium, and coarse granules. Specifications as to the proportion of each size are rigidly followed. This, plus better temperature control of the coating asphalt, and a refinement of the pressing process adds up to firmer embedding, improved coverage, and more permanent adhesion.

Improvements in color are most ap-  
(Continued to page 168)



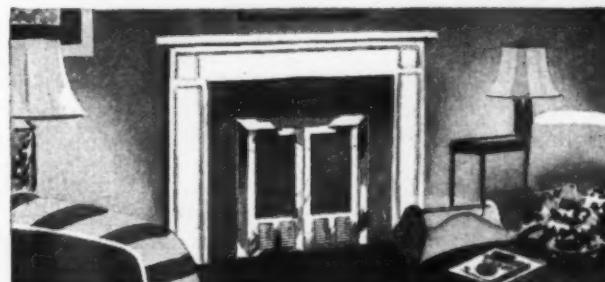
## Adds to the Comfort, Convenience and Value of the Home!



⑩ Quikheters can easily be installed in any room in the house. They are particularly ideal for bathrooms. They quickly eliminate the chill from the room and make shaving and the morning bath or shower a pleasant task.



On chilly damp mornings when the regular heating system is not in operation, or on those blustery, winter days when the cold just will seep in ⑩ Quikheters will keep baby's room warm and healthful.



⑩ Quikheters are available in single units of 1,000 and 1,500 watts and twin units of 2,000 and 3,000 watts. The latter are particularly adaptable for installation in mantels or fireplaces.

### ELECTRIC QUIKHETER

Frank Adam Electric Quikheters provide that "Extra" which adds so much to the value, comfort, convenience and enjoyment of the home. Quick-acting, requiring only the flip of a conveniently located switch to send forth a flood of warm air into the room, these attractive, economical and long-lasting units afford substantial savings in fuel and add greatly to the beauty and utility of the home.

Install one of these units in your home today. Your electrical contractor can give you complete details or write for Bulletin No. 77.

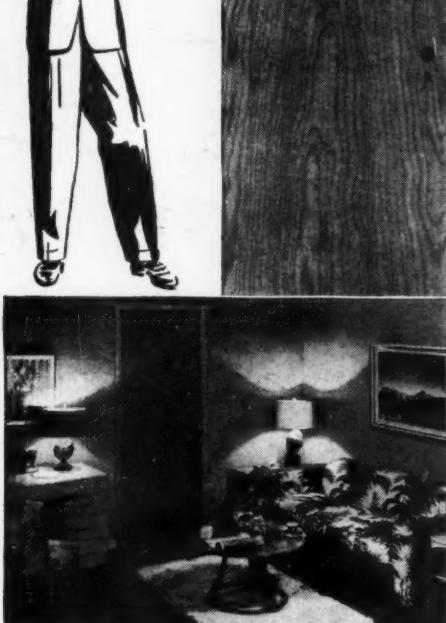


# Frank Adam Electric Co.

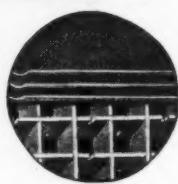
ST. LOUIS 13, MISSOURI

Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER

# Give Building Owners



U.S. Pat. 1,887,814. The exclusive interlocking grid core within the Rezo door allows constant air circulation, adds extra strength, and provides greater rigidity



**W**HEN you're building apartments under today's conditions, it's high time to get down to cases . . . time to give your building owners the basic dollar values they want and need to come out right on their investment. Then give them initial low cost of installation that registers on their pocketbooks—clean, exact-size flush doors that are quickly installed and are painted or stained in record time. Give them freedom from future trouble and maintenance expense with doors whose patented air-cell features provide the greatest dimensional stability on the market. Give them doors that are beautiful and dependable, doors that will be a lasting credit to your name—as proved by over 2,000,000 existing installations. Yes—give them  $1\frac{1}{4}$ " Paine Rezo doors . . . you can't give them more.

Write today for factual, contractor's bulletin.

*Manufactured by the*

**PAINE LUMBER CO., Ltd.**

Oshkosh  
Wisconsin

ESTABLISHED 1853

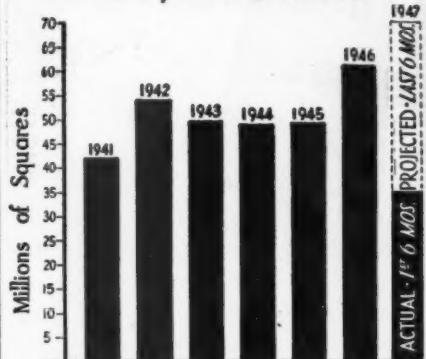
(Continued from page 166)

parent to the home buyer. Builders find that the wide range of colors in which asphalt shingles are available enable them to give houses of the same elevation and size different appearance and enhanced charm. They have found that a house with a dark roof with matching trim "shrinks," whereas a house with a brightly colored roof and contrasting trim "grows."

The granules which give asphalt roofing its color are composed of any weather-resistant hard rock, opaque to ultra-violet rays. They are compounded with pigments and subjected to a firing process similar to that used in the man-

## SHIPMENTS—ASPHALT ROOFING

(Excluding Saturated Felt)  
SOURCE: Department of Commerce



1946 production of all asphalt roofing showed a 43 per cent increase over 1941, which was the peak prewar production year. ufacture of ceramics. This makes the color "fast." It cannot be washed off by rain or be faded by the sun.

Industry production due to sustained builder, dealer, and consumer demand, promises to be maintained at today's high levels. To assure an uninterrupted flow of roofing to meet the demand, new felt mills, the principal bottleneck to still greater production, are being constructed, as well as new and enlarged roofing plants.

## Termite Control Subject Of Free Booklet

**T**O counteract the huge damage caused by termite infiltration into homes annually, the Illinois Natural History Survey Division of the State of Illinois has published a circular entitled "How to Recognize and Control Termites in Illinois."

Written by B. G. Berger while assistant entomologist on the survey staff, the book gives practical information dealing with recognition of termites, their damage, their habits.

Pointing out that the most effective control begins when a building is being planned, the author lists some common structural mistakes that render a structure susceptible to attack.

Photographs and diagrams are used throughout to illustrate the text.

A copy of this circular may be obtained free of charge by writing to the Illinois Natural History Survey, Natural Resources Bldg., Urbana, Ill.



When Benton Lefton first opened "Housemart, Inc." he based its success on the "one-stop" principle—a builder could get everything needed for a house at "Housemart." When Mr. Lefton started to build houses for the public, he carried the same idea through—a buyer could get a house and all the major appliances under the one FHA loan. As a result, Mr. Lefton is credited with being one of the largest and most successful builders in the Cleveland area.

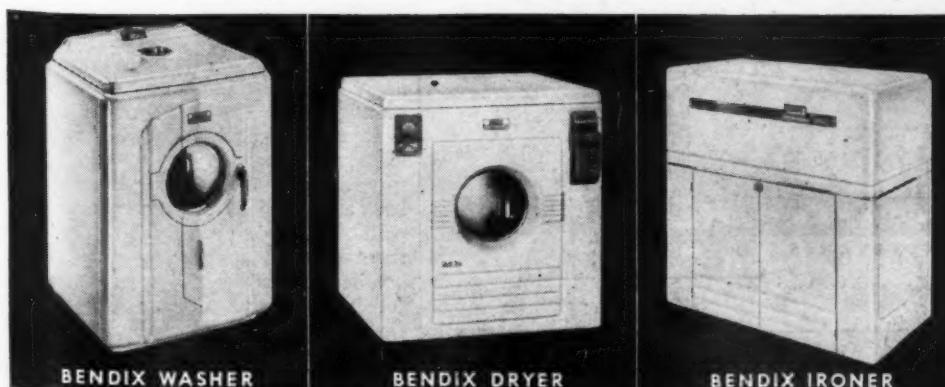
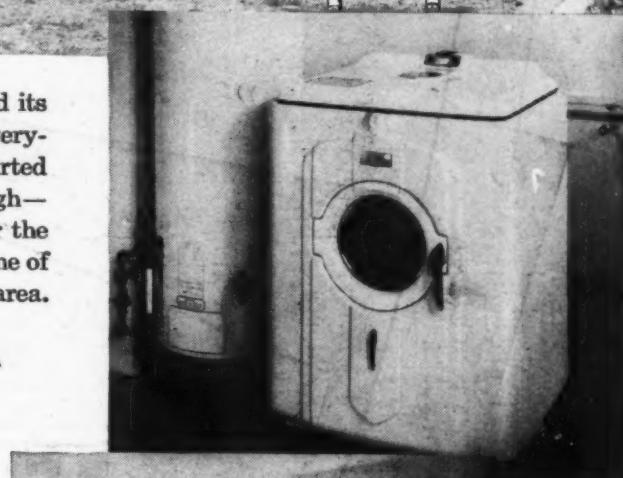
#### BENDIX APPLIANCES INCLUDED UNDER FHA

Each "Housemart" house, sold by the Benton Building Co., is planned to include a Bendix Washer, a Bendix Dryer and a Bendix Ironer. The appliances are sold with the house and financed in a "package mortgage" under FHA.

That saves the customer the trouble of making separate purchases in order to make the house ready to carry on the business of living.

For the compact Bendix Washer will wash, rinse, damp-dry, drain itself, clean itself and shut itself off even when the housewife isn't present. It never slops the floor. It takes up only 4 square feet of space. The convenience of the Bendix Dryer, the simplicity of the Bendix Ironer help to free the housewife from washday drudgery.

There's a tip to you, Mr. Builder! A house so planned and equipped sells quickly, and for a premium price. Plan it that way, equip it that way—and let the prospect know about it. The "Sign of a Smart Builder" on the front lawn will do that for you. See your Bendix Dealer.



**BENDIX**  
automatic  
**Home Laundry**

BENDIX HOME APPLIANCES, INC.  
SOUTH BEND 24, INDIANA

# WROUGHT STEEL STRAP HINGES



## TEE HINGES

*Quality  
Hardware  
Since 1865*

**McKINNEY**

MANUFACTURING COMPANY  
PITTSBURGH 12, PENNSYLVANIA



## New Sectional Furniture Makes Built-Ins Easy

STOCK-BUILT upholstered kitchen and breakfast room furniture in unit sizes easily adapted to fit a majority of areas assigned for such pieces is now being produced by the Chew Manufacturing Co. of Connelly Springs, N. C. Any combination of units that may be accommodated can be either permanently



COMBINATION of two corner units and chairs form U-shaped seating plan.



BASIC corner units of new stock-built breakfast nook or recreation room furniture.

installed or left to be moved about at will.

With custom-built installations for such jobs proving very costly, these economical pieces can be shipped to the job site, completely finished in a wide variety of color combinations.

The use of a new plastic upholstery material, which can be washed with soap and water, over non-sag springs insures quality and permanence. All wood panels are hardwood plywood and cross rails are doweled. The upholstery is canvas-backed. Aluminum arms for the single-seat or chair units are also available.

The basic corner units, one or two or more of them in combination with the "chairs" or single seats permit an infinite variety of arrangements to take care of almost any shaped area assigned for use as a breakfast nook or corner seating arrangement.

Rear side of all units are slanted sufficiently so they may be installed permanently without removing baseboards or base shoe to obtain a tight fit against any wall. The seat pedestals are recessed in front so that upholstery covering will not be marred by heels of occupants.

Although the Chew Manufacturing Co. just recently started production on these stock-built upholstered units, the firm reports ability to ship promptly to any destination in the United States.

kitchen  
in unit  
ority of  
is now  
anufac-  
, N. C.  
may be  
permanently

# 1 SOURCE OF SUPPLY... UNDIVIDED RESPONSIBILITY

**Little Bath... lots of Charm!**

Even the smallest bath can make you feel BIG with pride. Particularly if your decorating ideas are built around Briggs Beautyware! For Briggs is tops in modern design. Suave, simple, streamlined . . . as only these famous porcelain-enamelled steel fixtures can be. Easy to clean, too—thanks to Briggs' stainproof porcelain enamel! For information and inspiration in planning your own "small but perfect" Briggs Beautyware bathroom . . . write for this free booklet, today—and see your local plumbing dealer. Briggs Manufacturing Company, 3009-J Miller Ave., Detroit 11, Mich.



## WHEN YOU SPECIFY BRIGGS *Beautyware* AND BRASS GOODS

Architects and builders know that Briggs Beautyware, trimmed with Briggs brass fittings, solves their problems. There is no divided responsibility—no inconsistency in quality! When they specify Briggs Beautyware, they know it will come trimmed with Briggs brass fittings of the same high quality . . . harmonious, lustrous fittings of modern design.

Briggs Beautyware, stainproof porcelain enameled steel plumbing fixtures are the finest in plumbing ware. You, too, will find Briggs Beautyware tops in plumbing fixtures . . . tops in quality . . . tops in style . . . tops in public preference.

Just look at these features of the famous Briggs' bathtub:

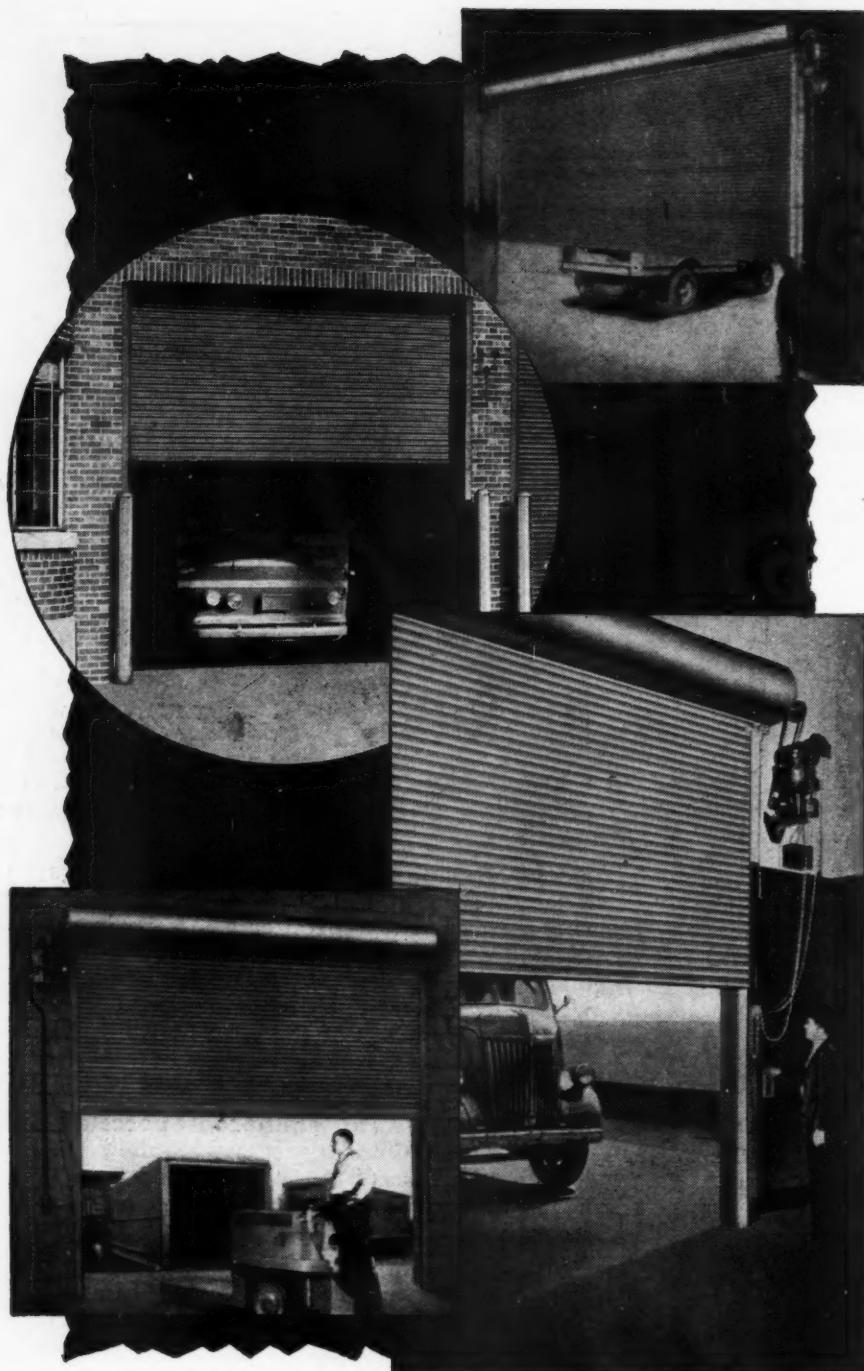
- Patented safety bottom
- Stainproof porcelain enamel
- Maximum area of level bottom
- Wide rim seat
- Low sides
- Safety hand grip

Write us for more detailed information about the Briggs line.

**BRIGGS MANUFACTURING COMPANY**  
3025 Miller Avenue • Detroit 11, Michigan



Every month, to the 5-million readers of AMERICAN HOME and BETTER HOMES & GARDENS, Briggs shows a modern, compact, convenient bath plan. Briggs consistently broadcasts ideas that can be readily sold to the small home market.



## IN EVERY CASE . . .

Kinnear Rolling Doors offer peak efficiency at lower cost, for a longer time. Their smooth, easy operation . . . the space-economy of their coiling upward action . . . the extra protection of their all-metal construction . . . the windproof safety of their compact, overhead storage — and many other features are preferred by builders, architects, and building owners. Any size, for old or new construction. Motor operation available, with remote controls if desired.

**THE KINNEAR MFG. CO.**

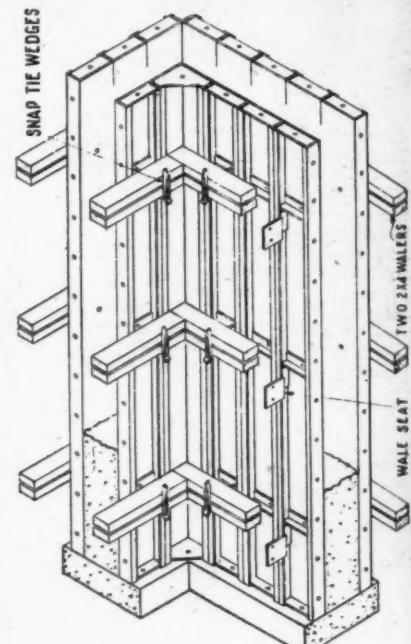
Factories: 1560-80 Fields Avenue,  
Columbus 16, Ohio; 1742 Yosemite  
Ave., San Francisco 24, California.

**KINNEAR**  
**ROLLING DOORS**

## Low Cost Housing With New System Of Concrete Forms

ATTRACTIVE, all-concrete houses that can be poured at the rate of one and one-half a day at an extremely moderate cost have just been developed by the Irvington Form & Tank Corporation of Irvington, N.Y. Considerable interest has been shown in the new system, both in the United States and abroad, particularly for large scale workers' housing projects in locations having warm climates such as our southern states and South America where no cellars are required.

The forms are supplied in complete sets for pouring an entire house, includ-



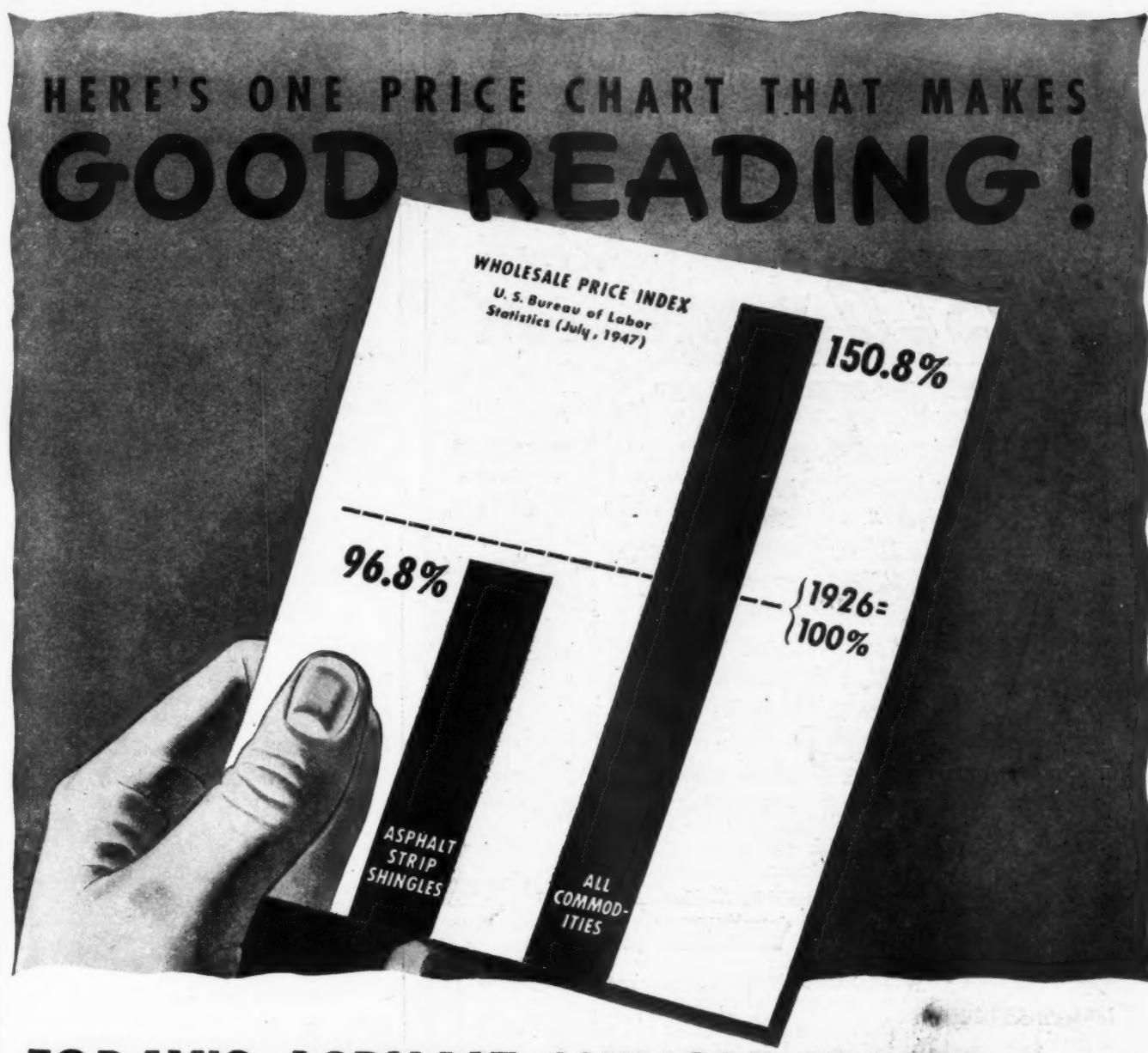
TYPICAL wall detail.

ing exterior walls, interior walls and roof. Made of steel, the units are simple to assemble with wedge bolts and clips. Studding is not required for support of the wall which results in a big saving in labor to erect, strip and move, as well as in material. Wale seats which are easily assembled to the forms carry walers of 2 x 4 inch lumber. Standard snap wall ties keep the forms the specified distance apart, and tie wedges secure the walers. Steel angle walers or wood walers may be used.

The steel slab forms used for the roof are also very simple to set and strip since they do not require joists for support; neither do they require nailing or other fastening. The steel slabs lay flat on girts and the panels form a tight joint.

When built in quantities of one hundred houses or more, the cost per use per house should be very nominal in most areas, about \$140.00 for a one-story house, or \$180.00 for one of two-stories.

Though made in standard units, the steel forms have flexibility and lend themselves to a variety of architectural treatments. One design accurately resembles a clapboard finish.



## **TODAY'S ASPHALT SHINGLE PRICES ARE 3% UNDER THOSE OF 1926!**

In the face of much higher prices for nearly everything, the record of Asphalt Shingles is an amazing one. Asphalt Strip Shingles are wholesaling right now at prices actually below those of 1926... 96.8 compared with 100 for 1926.\* Steadily growing popularity, enthusiastic dealer merchandising, increased plant efficiency, and materially stepped-up production have combined to make this low price possible.

But the price tag is not the only measure of Asphalt's big dollar's worth, in today's market. Never has the industry produced a better product. Many important improvements

have been made since 1926... improvements in raw materials, in processing, in granules, in color... even in the technique of application.

From every point of view, fire resistant Asphalt Shingles are *construction's biggest dollar's worth!* Choose weight, pattern, and color to fit the job... but make it Asphalt!

\*U. S. Bureau of Labor Statistics, July, 1947.

Ask for booklet, "Choose Your Roof for Rain—AND SHINE." 24 pages in full color. Filled with hints on choosing and combining colors for exterior styling. Talks good sense, good taste, in roofing. Copies are available from members or write direct to us for free sample.

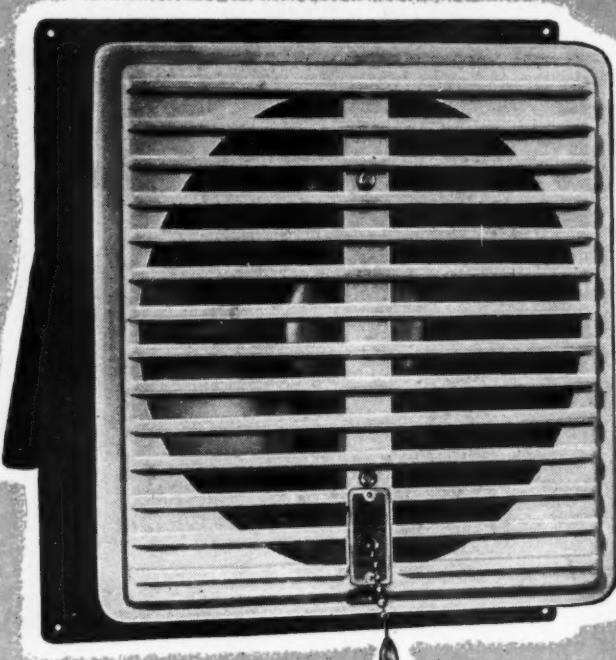
**CONSTRUCTION'S BIGGEST  
DOLLAR'S WORTH**

# **ASPHALT SHINGLES**

**ASPHALT ROOFING INDUSTRY BUREAU**  
2 West 45th Street • New York 19, New York

**NO OTHER popular-priced ventilator gives as many Quality Advantages**

... AS THE NEW  
**\*FASCO AUTOMATIC KITCHEN VENTILATOR**



**BUILD YOUR KITCHENS CLEAN, COOL AND COMFORTABLE**



**LIST PRICE ONLY  
\$24.95**  
INCL. TAX

Slightly higher  
in the West



Typical Cross Section  
of Ventilator Installed

A PRODUCT OF

**FASCO**



P. A. SMITH MANUFACTURING CO., INC., ROCHESTER 2, N. Y.

Gentlemen:

Please send complete information on the New Fasco Automatic Kitchen Ventilator.

AB-2

Name \_\_\_\_\_

Street \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

My Electrical Jobber Is \_\_\_\_\_

### Zonolite Expansion Program Speeds Delivery

DOUBLED mining capacity at Libby, Montana, and new vermiculite ore deposits in Tygerville, South Carolina, are increasing supplies of raw materials to the 22 processing plants of the Universal Zonolite Insulation Co., in line with the company's general expansion program.

The mined ore is processed into a complete line of vermiculite insulating materials and lightweight aggregates distributed nationally under the brand name "Zonolite" and sold through accredited lumber dealers.

As part of the expansion program, new plants have been established in Chicago, Illinois, Dearborn, Michigan, and Albany, New York.

The company's principal products are Zonolite insulating fill, Zonolite plaster



Dearborn, Michigan, Plant.



Chicago, Illinois, Plant.



Albany, New York, Plant.

aggregate, Zonolite stabilized concrete aggregate and Zonolite acoustical plastic.

Zonolite insulating fill is a clean, non-irritating, dustless material that is rapidly installed without the aid of special equipment. It is simply poured into wall and attic floor cavities and leveled.

Zonolite plaster aggregate, when mixed with gypsum, results in a fire-proof, sound-deadening, insulating material which, because of its lightweight, materially reduces dead load on supporting members. Zonolite plaster possesses all the advantages of ordinary plaster, plus fireproofing, sound-deadening and crack resistant qualities.

A lightweight fireproof insulating concrete can be made by mixing Zonolite stabilized concrete aggregate and Portland cement. When applied monolithically on roofs or floors, Zonolite insulating concrete forms a permanent structure highly resistant to cracking, buckling and weathering.

All Zonolite products are available through lumber and building material dealers. This includes Zonolite acoustical plaster, which combines sound-absorbing characteristics with complete fire protection.

"Our own experience convinced us . . .  
**BRUCE FINISHED FLOORS**  
 rate HIGH in buyer appeal  
 ...LOW in installed cost!"

Reports **HARRY J. DURBIN**

Well-known Detroit home builder



Mr. Durbin should know. His firm, long-time leader in the Detroit building industry, has used Bruce Finished Floors in more than 1200 units since 1939.

He writes: "Our records, covering eight years' experience with Bruce Finished Floors, show that elimination of the sanding and finishing operations required with old-type strip flooring has saved us an average of \$30 to \$35 and three working days per unit.

"These savings, combined with the almost unanimous enthusiasm of our buyers and tenants for the exceptional beauty and wearing qualities of the finish, have convinced us that Bruce Finished Flooring is the outstanding flooring in the market today."

All over the country, many leading operative builders like Mr. Durbin are having similar experiences. They're discovering, just as he did, that Bruce Finished Floors are best because they eliminate unnecessary costs and give the buyer a more beautiful floor with a superior, long-lasting finish.

**E. L. BRUCE CO.**

Memphis, Tennessee

World's Largest Maker of Hardwood Floors

*Merle W. Hogan, Architect  
for Durbin homes, writes:*

"Bruce Finished Flooring was first specified by me in 1939 for use in homes built by Harry J. Durbin. Since that time I have specified it for hundreds of clients and observed how it withstood years of use."

"I am sure Bruce Finished Flooring provides a better floor for residential use than ordinary flooring. It provides a pleasing pattern and a fine finish which is easily cleaned and maintained."

"I have also found that Bruce Finished Flooring actually costs less and saves time during construction."

Yours very truly,

MERLE W. HOGAN,  
A. I. A.



**BRUCE FINISHED FLOORS**

## HOW TO MEET THE DEMAND FOR SEPARATE SHOWER BATHS

**Surveys show more than half the families planning to build want separate shower baths.**

**You can meet this rapidly growing demand by installing Weisway Cabinet Showers.**

**Precision-built, leakproof Weisways are made in models suitable for homes in every price class.**



# Weisway CABINET SHOWERS

Quality-proved and service-tested through years of actual use, Weisways insure satisfaction, protect your reputation. Weisways are the product of the pioneer manufacturer in this field. They are precision-built to the quality specifications which won acceptance for the Cabinet Shower as standard plumbing equipment. Leak-proof, easily installed in new or old homes without special treatment of building walls or floor. Vitreous porcelain receptor with exclusive "foot-grip, no-slip" floor.

The separate shower bath is in increasing demand by home buyers and builders. Weisways are truly the "mark of a modern home." Standard model, of genuine pre-war quality, available for immediate shipment. Distributed through established plumbing channels. Mail coupon for detailed information.

**HENRY WEIS MANUFACTURING CO., INC.  
1001 Weisway Building, Elkhart, Indiana**

Gentlemen: Please send folder and details regarding Weisway Cabinet Showers now available.

NAME \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

### Modernfold Lowers Prices By Standardizing Doors

TWO special-built Modernfold doors for low cost housing, apartments and garden type homes are now offered architects, builders and home owners by New Castle Products, New Castle, Indiana, according to an announcement by S. J. McCarthy, general sales manager.

The product was only recently standardized in an effort to reach the lower income bracket. Formerly, all Modernfold doors were custom-built and used principally in large openings. Their special appeal was to homes in the higher bracket. Now, however, because of recent innovations in their production line, New Castle Products are able to offer these doors in opening sizes of 2 foot 4 inches wide by 6 foot 8½ inches high and 2 foot 10½ inches wide by 6 foot 8½ inches high.

The smaller of these two special doors, called the Leader, retails at \$26.00 f.o.b. factory. The larger door, called the Master, retails at \$30.00 f.o.b. factory.

Modernfold door distributors, located in principal cities throughout the United States, will provide complete sales, engineering and erection service on these special doors. They will be stocked and available for immediate delivery. Future deliveries can be made from the factory in a two-week period.

These special Modernfold doors will be covered with a choice of either Ivory both sides or Beige both sides of a vinyl-coated fabric.



### OWNER MANAGEMENT

Guarantees the true spirit of

# Hospitality

... it always prevails in every perfect detail of the service and atmosphere you'll enjoy at

*The*  
**DRAKE**  
*Chicago*

Edwin L. Brashears  
PRESIDENT



**ART-ROC** Reg. U.S.  
Pat. Off. *Built-in COLOR*  
makes this concrete terrace look like REAL TILE!

Amaze your friends  
to get *Dark COLOR* in concrete with **ART-ROC**

SEND FOR FOLDER

**TRUSCON**  
**ART-ROC**  
AGGREGATE  
GIVES  
*Built-in COLOR*  
**HARDNESS**  
**DURABILITY**  
**EXTRA VALUE**  
at Low Cost!

Supplied Ready to Use

Wherever a flat concrete surface is used—terrace, basement, driveway, sun room, porch, walk, etc.,—it can be given beauty and distinction with Truscon ART-ROC Color and Hardener for concrete. ART-ROC Aggregate is dusted on before finish troweling and produces a richly colored, BUILT-IN surface which takes all kinds of punishment because it is much harder than ordinary concrete. The surface can be scored to simulate tile, random flagstones or any similar effect and thus given added distinction—over and above the distinction achieved by the use of ART-ROC color. ART-ROC involves very little labor and the cost is trifling. We invite your inquiries. Write Dept. AR-4, Truscon Laboratories, Division of Devoe & Raynolds Co., Inc., Detroit 11, Michigan.

**TRUSCON** *laboratories*

Reg. U.S.  
Pat. Off.



## THINK IT OVER!

**Are you making roof specifications from habit?**

There have been amazing developments in the roofing field during the last few years as to methods, equipment and materials.

**For peak performance and maximum efficiency in application, find out about Abesto Cold Roofing Adhesive Materials.**

General specifications adaptable to individual construction problems are available at no cost. Send for our A.I.A. folder on roof plans.



**ABESTO MANUFACTURING CORP.**

MICHIGAN CITY, INDIANA

### General Wainwright Joins Acme Sash Balance

GENERAL Jonathan M. Wainwright, hero of Bataan, on September 1 took over new duties as vice-president in charge of public relations for the Acme Sash Balance Co. of Los Angeles. His appointment was announced by Dudley



GENERAL WAINWRIGHT

M. Steele, Acme president, and coincides with an intensified national and regional sales and advertising program which the company has scheduled for fall and winter.

General Wainwright was the principal speaker September 11 at the closing session of the National Contract Hardware Association convention and at the National Builders Hardware Association convention in Chicago.



### Eliminate HAND SANDING!

UP TO 75% SAVINGS in time finishing or refinishing cabinets, doors, wood trim, stair treads, etc. A rugged, fast finishing sander for CURVED or flat, WET or dry work. Strate-line, back and forth action cuts no swirls, laps, stutters or gouges.

Write for literature

Detroit Surfacing Machine Company  
7458 W. Davison Detroit 4, Michigan



## DEPENDABLE FOR YEARS

Perhaps your customers pay little attention to brand name when you sell them screen or hardware cloth. But if you sell Wickwire Cortland Brand you know your customers will get dependable service, year after year.

The good service they get reflects favorably upon you. Customers who see how Wickwire Cortland Brand products stand up in service are likely to say "That's a good store. They sell merchandise that lasts".

**WICKWIRE BROTHERS, INC.**  
CORTLAND, N. Y.

*Nu-Style*

UNIT KITCHEN CABINETS

\* a leader in the new  
**BILT-WELL**  
line



**DUSTPROOF ENCLOSURE**

The drawers and doors overlap their openings and make the interior of the cabinet dustproof.



**DOVETAILED DRAWER FRONTS**

The dovetail can only be seen from the bottom—doesn't come up through the top—where it would detract from appearance.



**TWO DEEP DRAWERS**

Extra depth is provided in two drawers for those bulky articles.

*MEMBER*  
Ponderosa Pine Woodwork



**N**u-Style Kitchen Cabinets are out in front because of the outstanding features that appeal to Dealer, Builder, Architect, and Homemaker.

Nu-Style Cabinets are sold in neat, labeled cartons, which means to the Dealer a saving of warehouse space and a quick, easy way to identify products.

Nu-Style Cabinets are sold K.D. with easy-to-understand instruction sheets for assembling—an appealing feature to the Builder.

Architects are especially impressed with the smooth, modern styling that harmonizes with latest refrigerators and ranges.

Then for the Homemaker there are the easy-to-reach drawer and door handles that eliminate stooping and stretching—smooth, flush fronts for easy cleaning—recessed toe space for correct, healthful posture.

From the features described and illustrated, you can readily see why the Nu-Style Cabinet is a Leader. Surely they are worth investigating. Write us for the name of your nearest source of supply for Bilt-Well Nu-Style Kitchen Cabinets . . . the Leader in its field.

**CARR, ADAMS & COLLIER CO.**

Dubuque, Iowa

**BILT WELL**  
**WOOD WORK**

the new **BILT-WELL** line

- New* Superior Unit Wood Windows
- New* Bilt-Well Interior Doors
- New* Bilt-Well Exterior Doors
- New* Nu-Style Kitchen Cabinets
- New* Bilt-Well Entrances
- New* Bilt-Well Shutters

- New* Clos-tite Casements
- New* Bilt-Well Basement Windows
- New* Bilt-Well Combination Doors
- New* Bilt-Well Louvres and Gable Sash
- New* Carr-dor Overhead Garage Doors

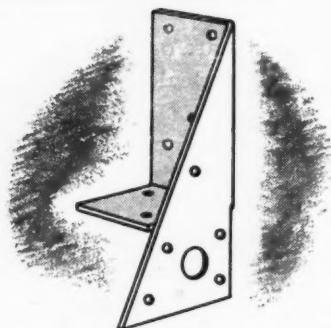
- New* Bilt-Well Corner Cabinets
- New* Bilt-Well Storm Sash
- New* Bilt-Well Screens
- New* Gli-dor Cabinets
- New* Bilt-Well Medicine Cabinets
- New* Bilt-Well Ironing Board Cabinets

- New* Bilt-Well Mantels
- New* Bilt-Well Telephone Cabinets
- New* Bilt-Well Stair Parts
- New* Bilt-Well Unit Linen Cabinets
- New* Bilt-Well Breakfast Nooks

**They MUST be  
GOOD**  
when one builder  
orders  
**104,000**

**Trip-L-Grip**  
FRAMING ANCHORS  
for home construction

C. L. Eddieblute, Miami, Fla., praises this new timber connector that "fits naturally into 90% of house framing joints. Like all basically sound units, they are of the utmost simplicity."



Builders use them in wood framing connections for:

- Joists to Beams
- Beams to Posts
- Studs to Sills
- Rafters to Plate
- Plate to Studs
- Girts to Posts
- Lintels to Bucks
- Joists to Nailing
- Purlins to Trusses

*Write today* for your FREE copy of our new Trip-L-Grip booklet.

**TIMBER ENGINEERING COMPANY**  
1319 18th Street, N. W., Washington 6, D. C.

Please send me free Trip-L-Grip booklet and quote prices.

Name \_\_\_\_\_  
Company \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_

AB

**Joe Weston Heads  
Plywood Field Service**

JOE WESTON, long time proponent of plywood for construction and industrial applications, has been picked to head the field service department of the Douglas Fir Plywood Association. His appointment, according to Managing Director Charles E. Devlin, strengthens the field service department which aids panel specifiers.

Weston will work out of the association offices at Tacoma, Wash. Formerly he was an architect and licensed contractor in Los Angeles and has been connected with design and construction of plywood buildings since 1934.

He introduced modular design for plywood in 1938 and developed the popular light stain finishes for paneled interiors.

"Basic function of the field service of the plywood association," Weston says, "is market level service to panel users and salesmen in furthering acceptance and proper use of Douglas Fir plywood."

Members of the field staff, in addition to calling on the trade, will carry on cooperative work with agricultural colleges throughout the country. Research is being conducted at the colleges on plywood farm structures of every type. Buildings are constructed and tested in actual use. Already 222 such projects have been initiated and more than 150 plans for improved farm structures have been developed from them. Plans are distributed by the colleges and the Plywood association.



**HERE'S WHY YOU  
SHOULD INSTALL**

**ACME**

**SASH BALANCES**  
for double-hung windows

1. They provide quiet, effortless window opening.
2. They require no adjustment.
3. They permit easy weatherstripping.
4. They are weather-tight, dust-proof and rust-proof.
5. They are easily and economically installed.
6. They are unconditionally guaranteed against imperfections in workmanship and materials.

ACME Spring-Type Sash Balances have been the choice of many leading architects and builders for more than 20 years.

**ACME-TWIN  
Sash Balance**

Single or double installation. Counter-balancing springs for both upper and lower sash are in one case only  $\frac{3}{4}$ " thick. Does not project beyond back side of pulley-stile.

**ACME Side  
Type Sash  
Balance**

Mortise type balance. Can be used in either single or double installation.



**ACME Over-  
head Type  
Sash  
Balance**

Fits neatly into frame head of window. Single or double installation. See your hardware or building supply dealer or write direct for literature.

**ACME**

**SASH BALANCE COMPANY**  
1626 Long Beach Ave.  
Los Angeles 21, Calif.

*always Popular  
... again in Production!*

*the "Cosmette"*  
LAVATORY  
PATENTED

• NO. 3408 EASY-ACTION "SLANT-BACK"  
FITTING. A fully chrome-plated fixture with  
permanent non-splash device. Design pro-  
vides for easy renewal of any wearing part  
or the entire unit.

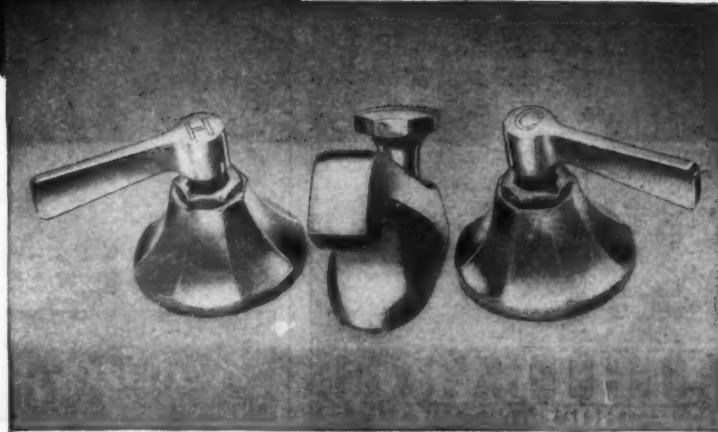


- So attractive to the eye as well as the budget, so generous in usable area, so skillfully designed to fit limited bathroom space...this is the *Cosmette*! Produced by Case and distributed nationally—see your Classified Telephone Directory or write W. A. Case & Son Mfg. Co., Buffalo 3, N. Y. Founded 1853.

- Genuine acid-proof Vitreous China.
- Dry shelf space for toilet articles.
- Built-in soap dish.
- Concealed front overflow.
- Towel bars, if required, free from the wall.
- Wall hung or with legs.
- All exposed parts chromium-plated brass.
- 20" x 13½" and (for production later) 24" x 16½".

# Case

PLUMBING FIXTURES



**12 Year's  
RESEARCH  
BLOCK  
MACHINE  
of the Future  
NOW**

**Rated Capacity  
3840  
8x8x16"  
BLOCKS  
Per Day**

Tomorrow's block machine is here today, the result of 12 years research by Lith-I-Bar engineers plus over two years of actual production on the pilot model.

Features which were visions of the future are now a reality. The Lith-I-Block unit has a rated capacity of 3840 blocks per 8 hour day and will produce light weight, as well as sand and gravel block. It makes all standard sizes of block, brick and chimney block.

A few of the advantages which have been so widely acclaimed are: unusually quiet operation — continually clean pallets — size changes in as little as 15 minutes — automatic pallet feed — easily adjusted vibrating cycle — instantly adjustable feed timing — off-bearing cycle reduced to one-half of production cycle — simple installation.

Write today for complete details. The Lith-I-Bar Company, Holland, Michigan.

**LITH-I-BAR CO.  
BOX 30 HOLLAND, MICHIGAN**

#### Department of Labor Offers Guide For Apprentice- Training of Tile Setters

TO DEVELOP skilled workers in the tile setting trade, the U. S. Department of Labor, Apprentice-Training Service, has prepared a 16-page illustrated booklet on the subject. The provisions and regulations set forth in this booklet were formulated by the National Tile Setters Joint Apprenticeship Committee, which is representative of the Tile Contractors Association of America, and the Bricklayers, Masons, and Plasterers International Union of America.

Qualifications for apprenticeship, the number of years required, proportion of apprentices to journeymen, apprentice wages, procedure in indenturing and employment of apprentices, registration of programs and apprenticeship agreements are among the subjects covered.

Copies of this booklet will be sent free of charge by the Apprentice-Training Service, U. S. Dept. of Labor, Washington 25, D.C.

#### Manufacturer Expands Plant To Double Production

RECENT plant expansion program undertaken by the Faries Manufacturing Company, Decatur, Illinois, will soon come to completion and enable this manufacturer to double his production of bathroom medicine cabinets.

**All  
Aluminum  
Red Devil  
GLASS CUTTERS**

**Sensitive to touch  
— light to handle  
— relaxing  
to use.**



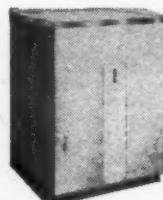
**A Product of  
Red Devil Tools.  
IRVINGTON 11, NEW JERSEY**

## TABL-TOP Hot Water TANKS

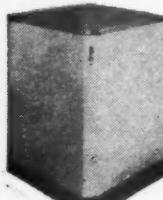
• FOR  
VALUE  
AND  
PROFIT

### 3 TANKS

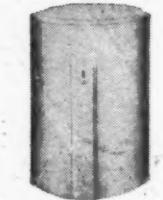
Designed to give the architect and builder a greater flexibility in planning the modern home.



The Square TABL-TOP Tank fits into the counter planning of the kitchen. Its colorful Westplak top assures an acid and stain proof surface, blending into counter and kitchen planning and layout. 36" high.



The TABL-TOP Corner Tank gives you flexibility in your planning. Fits into the corner of kitchen or utility room. It is a real space saver. Linoleum top. Available in Westplak at slight additional cost. 36" high.



The TABL-TOP Round Utility Tank is designed to fit under counter space where a solid top is desired. It is only 35" high, round, flat top. This tank is a real value when economy and utility is desired.

ALL TABL-TOP TANKS are insulated with fibre glass . . . Dependable, using Cam-Stat thermostats and Trent heating elements . . . Rugged tanks of heavy  $\frac{1}{8}$ " double-dipped galvanized steel . . . baked white enamel casing . . . Listed and approved by the Underwriters Laboratories . . . 40 gal. capacity.

**A B C O**

MANUFACTURING CO., INC.

509 WESTLAKE NORTH  
SEATTLE 9, WASHINGTON

**THERE'S  
NO SHORTAGE**



OF WASTE AND VENT  
LINES MADE OF

## **CHASE COPPER TUBE**

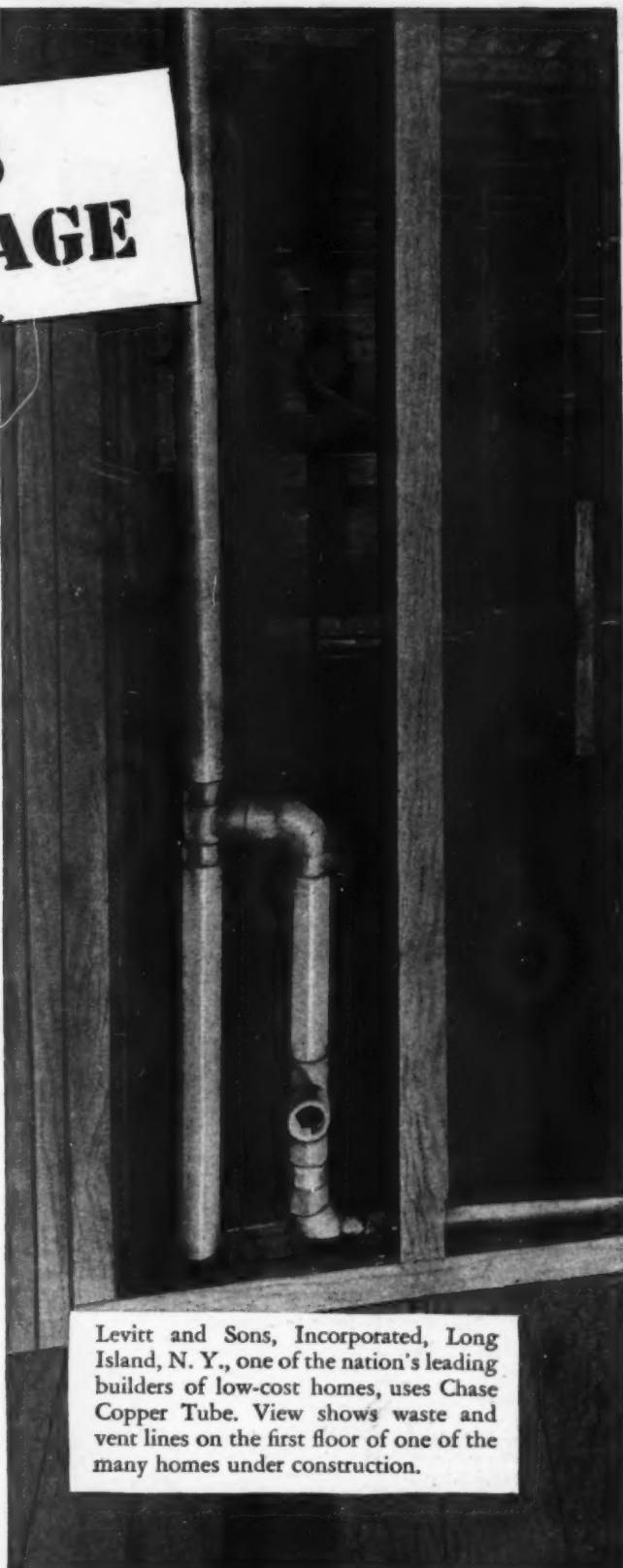
NOT only can you obtain Chase Copper Tube readily . . . but also at virtually *no extra cost* in the long run! You save on installation costs. Here's why:

Copper tube is available in 20 foot continuous lengths . . . eliminating numerous extra connections.

It is easily cut to accurate lengths in contrast to the difficulty in cutting other materials used for this work.

Solder-joint drainage fittings are available in all of the necessary varieties of types and sizes required for copper tube drainage systems.

Remember, too, copper tube has a very smooth interior surface and is a superior material for drainage systems. Send for literature; write Dept. AB 107.



Levitt and Sons, Incorporated, Long Island, N. Y., one of the nation's leading builders of low-cost homes, uses Chase Copper Tube. View shows waste and vent lines on the first floor of one of the many homes under construction.

# Chase

WATERBURY 91, CONNECTICUT



*the Nation's Headquarters for  
BRASS & COPPER*

SUBSIDIARY OF KENNECOTT COPPER CORPORATION

ALBANY ATLANTA BALTIMORE BOSTON CHICAGO CINCINNATI CLEVELAND DETROIT HOUSTON INDIANAPOLIS KANSAS CITY, MO. LOS ANGELES MILWAUKEE MINNEAPOLIS NEWARK NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGH PROVIDENCE ROCHESTER SAN FRANCISCO SEATTLE ST. LOUIS WASHINGTON (Indicates Sales Office Only)

THIS IS THE CHASE NETWORK . . . handiest way to buy brass

*Cash in on the interest in modern fireplaces . . . with FYRO-PLACE*

*"Last Word" in Heat-Circulating Units*

20 years of "know how"—on the part of our President, F. E. Price, and Vice President, H. H. Walters, pioneer inventor and designer of the present accepted standard circulating fireplace heater—are responsible for the NEW and improved features in Fyro-Place.

#### INCREASES SALE-ABILITY

The trend to fireplaces is terrific. Prospective home builders all want fireplaces. Because of the keen interest, home magazines are packed with fireplace pictures and information. The fireplace is what sells many a home; its absence spoils many a sale.

#### PROMOTES PRIDE OF OWNERSHIP

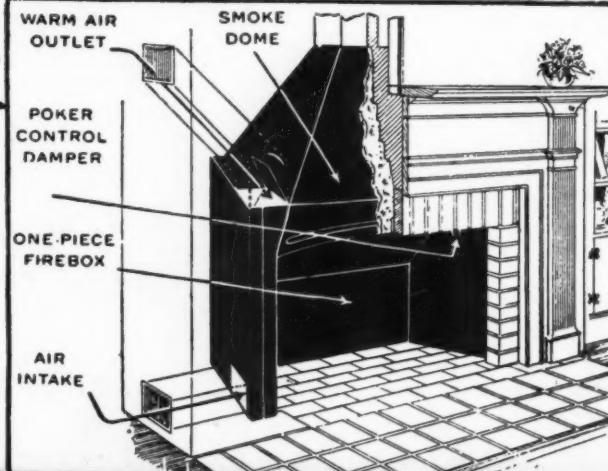
A Fyro-Place-equipped fireplace is the "show spot" of a home. A comfort spot, too, adding real heating value to beauty and atmosphere. Its value far exceeds the cost. The owner is far more satisfied. The contractor saves time and money.

#### OUTSTANDING FYRO-PLACE IMPROVEMENTS

- 1 Increased volume of warm air due to larger air outlets—no obstructions.
- 2 Improved draft due to streamlined fire box and smoke dome.
- 3 No obstructions in smoke dome means free passage of smoke—no eddies.
- 4 No troubles with damper—simple open and shut, poker operated, construction.
- 5 Insulating and expansion cushion provided by rock-wool blanket supplied with each Fyro-Place.
- 6 Tight fitting damper—no warm air leakage when fireplace is not operating.

Sold through your Building Supply Dealer. WRITE today for full information.

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FIREPLACE  
HEATER &  
TANK CORP  
2 Austin Street  
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**PRICE FIREPLACE HEATER & TANK CORP.**

**2 Austin Street Buffalo 7, New York**

#### Batt Insulation Tested In Cavity-Wall House

DURING the war, industrial plants were constructed successfully using insulation inside the cavity of standard FHA cavity-type, all-masonry walls. The practicability of this type of construction for small homes is now being tested in a six-room, two-story dwelling being erected at Maumee, Ohio, using glass fiber batts for the insulation.

Walls of the house have three and three-quarters inches of face brick, a one-inch air space and then one and one-half inches of glass fiber insulation faced



PREPARING to insert a thermocouple in the wall of the Maumee dwelling. Temperature records will be kept of a period of months.

with a vapor barrier on the interior side. This is fastened to the inner wall, made of three and three-quarters inches of back-up tile to which plaster is applied.

The outer wall is tied to the inner wall with conventional wall ties that are installed as construction progresses. Because the insulation batts are fastened to the inner wall of back-up tile, the inner wall must be built up first for some height. Then the batts are applied and the outer wall is built up with ties being inserted as work goes along. Care is taken to maintain the one inch air space between the batts and the outer wall.

Tests with loose fill insulation in cavity walls have indicated lowered efficiency because moisture accumulates in the insulating material. In the new type of construction, ventilation is provided by the air space between the exterior wall and the insulation. The glass fiber batts, being unaffected by moisture, will be durable, and the vapor seal will prevent moisture passing into it through the inner wall. Small air vents at top and bottom of the outer wall allow free circulation of air through the air space.

To check the insulation performance of the new insulated cavity wall construction, records will be kept through next winter, spring and summer.

It is believed that a home with an insulated cavity wall like that of the Maumee house should have a very high heat capacity. In winter it should cool slowly since the masonry will be warm and should retain its heat for a considerable time. In summer ventilation provided by the vents should carry off much of the heat load and the amount of heat that penetrates the walls should be small.

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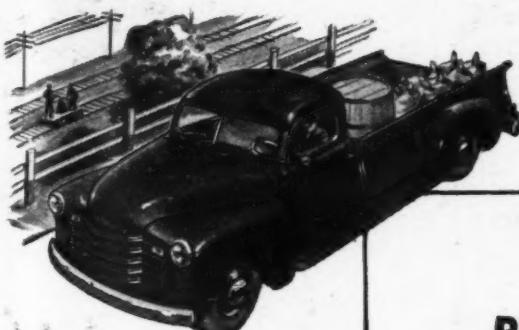
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Panels and pick-ups have  
**INCREASED LOAD SPACE**—  
stake and high rack bodies  
**MORE EFFICIENT LOADING**. . . . New stronger, sturdier  
**FRAMES** are designed to carry  
greater loads greater distances for a longer time!



Wider, deeper **WINDSHIELD** and **WINDOWS** increase visibility by 22%! New rear-corner windows, permitting even greater visibility are available as optional equipment at extra cost.



Chevrolet's **VALVE-IN-HEAD**  
**TRUCK ENGINES** are world's most economical for their size. . . . There are **HY-  
DRAULIC TRUCK BRAKES**, exclusively designed for greater brake-lining contact—for positive action!

**THE CAB THAT "BREATHES"**—  
fresh air is *drawn in* from the outside—heated in cold weather—and used air is *forced out*! It's roomier, much more comfortable, with 12 inches more foot room—eight inches more seating space!



## Power . . . When It's Needed . . . Where It's Needed!



## Advance-Design **CHEVROLET TRUCKS**

*with the cab  
that "breathes"\**

All over the country, truck users praise the rugged, reliable performance of the famous Chevrolet Valve-in-Head Load-Master engine, developing its peak power at low speeds for long life and lasting economy. See these new trucks with their sensational new features and innovations—today!

\*Fresh-air heating and ventilating system optional at extra cost.

**CHOOSE CHEVROLET TRUCKS FOR TRANSPORTATION UNLIMITED!**

CHEVROLET MOTOR DIVISION, General Motors Corporation, DETROIT 2, MICHIGAN



The cab is **FLEXI-MOUNTED**—cushioned on rubber against road shocks, torsion and vibration! . . . The seats are fully adjustable, bigger and more comfortable. **LONGER WHEELBASES** give better load distribution.



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### Clipper Masonry Saws

Your Special Size and Shape Brick or Concrete Block can now be "Tailor-Made" at a moment's notice!



The new Clipper Multiple Cutting Principle makes possible faster cutting of every masonry material regardless of hardness.

Here are a few typical examples of the speed and accuracy with which concrete products and fire brick can be cut.



One of the many intricate cuts performed on first quality clay brick for heat treating furnaces—made in 8 sec.

This concrete block, converted into a special size, was cut completely in two in 19 seconds.



Basic refractories for steel furnaces or cement kilns must be accurately installed. This magnesite brick was cut in 12 seconds!

Rotary Kiln Blocks, cut to size for "key" bricks in rotary kilns, require only 10 sec. for completion of cut.



**CLIPPER MFG. COMPANY**  
2808 Warwick, Kansas City 8, Mo.

### Opportunists Forced Out of Prefabricated Homes Field

PRODUCERS of factory-built homes on the Pacific Coast are making steady progress, but the "opportunists" are being forced into other fields, according to Harry H. Steidle of Washington, D.C., manager, Prefabricated Home Manufacturers' Institute, who recently completed a 5,000-mile trip in which he visited the major home prefabricators from Los Angeles to Seattle.

Mr. Steidle said confidence in the industry's future on the West Coast was expressed in the building of a number of new plants exclusively for the factory production of homes and by the good public acceptance which he found for the products of these factories.

"The greatest alarm seemed to come from the opportunists located chiefly in California, who rode prefabrication's band wagon at a time when they could nail together a few pieces of lumber under the guise of prefabricators in order to take 'mark-up' authorized by O.P.A.," Mr. Steidle declared. "Most of them dropped from the scene with the removal of government supports and others are being forced to the conclusion that their operations are not competitive in normal times."

Mr. Steidle said that on the West Coast there are upwards of ten prefabricators producing homes that would do credit to any neighborhood. Two producers, he reports, are making three-dimensional units. These are completely

(Continued to page 188)



**REZ**  
makes  
fine wood finishing  
easier...  
quicker...  
more economical

This ready-to-use amber-clear sealer and primer protects floors, doors, sash, millwork, and plywood. It is a synthetic resin, especially formulated to penetrate the wood fibers—leaves a tough resinous deposit, thereby minimizing moisture absorption, grain raise and decay. Also, it acts to assure dimensional stability.

Rez\* provides an ideal base for any type of finish—paint, stain, varnish.

#### See Your Dealer or Jobber

If Rez is new to you, or if you want current supply information on this easy-to-apply, quick-drying sealer and primer, see your dealer or jobber today. MONSANTO CHEMICAL COMPANY, Western Division, Seattle, Wash.... District Sales Offices: Los Angeles, San Francisco, Portsmouth, Va.

\*Reg. U. S. Pat. Off.

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## HOME SHOW

For Manufacturers, Distributors  
and Retail Dealers

### AN EXPOSITION WILL FOCUS ATTENTION ON THE LOCAL HOME BUILDING INDUSTRY

Our organization produces Home Shows exclusively through Home Builder Association and Real Estate Boards, in co-operation with daily newspapers.

We furnish modern booth equipment—complete stage properties and spectacular set-pieces, including attractive industry dioramas; handle all details—advertising, selling, public relations, and financing.

A trained organization of experts and specialists in showmanship

### NATIONAL HOME SHOWS, INC.

GROVER A. GODFREY, President

JOS. P. TUFTS, Vice Pres. and Gen. Mgr.

JOHN DALY, Director of Sales

Horace Black, Exposition Director

Home Offices—Dallas, Texas

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**MONSANTO**  
CHEMICALS AND PLASTICS

SERVING INDUSTRY... WHICH SERVES MANKIND



### DOUBLE-COURSED CEDAR SHINGLES

#### WINDOW AND WINDOW TRIM

EACH UNDER-COURSE SHINGLE MAY BE HELD IN PLACE WITH A SINGLE 3D NAIL

TWO 3D SMALLHEADED NAILS PER SHINGLE FOR OUTER-COURSE.  
NAILED 4" FROM EDGES AND 1" TO 2"  
ABOVE BUTT LINE

NO. 2, NO. 3 OR UNDERCOURSES  
SHINGLE FOR UNDER-COURSE

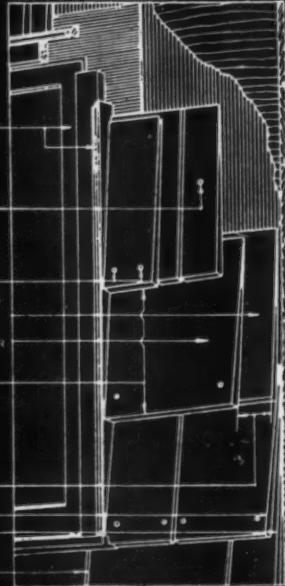
NO. 1 OR NO. 2 SHINGLE OR CEDAR  
SHAKE FOR OUTER-COURSE

MAXIMUM WEATHER EXPOSURE  
UP TO 12' FOR 16" SHINGLES  
UP TO 14' FOR 18" SHINGLES  
UP TO 16' FOR 24" SHINGLES

BREAK ADJACENT COURSE JOINTS  
AT LEAST 1"

OUTER COURSE 1" LOWER THAN  
UNDER-COURSE

EITHER TIGHT OR SPACED JOINTS



WINDOW DETAIL

## Surprisingly Versatile

Red Cedar Shingles for roofs and sidewalls offer the architect, builder and contractor surprising versatility in one standard material. Available as natural "Certigrade" shingles, or as processed shakes, either stained or unstained, cedar shingles are adaptable to homes of all sizes.

## Surprisingly Economical

Sidewalls double-coursed with cedar shingles or cedar shakes are economical because the double application allows wider weather exposures. The under layer is completely concealed —permits the use of low grade, economical shingles. Result is a warm, tight, attractive side-wall.

#### RED CEDAR SHINGLE BUREAU

5510-A White Building, Seattle 1, Washington  
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**SPECIFY "CERTIGRADE"  
CEDAR SHINGLES**



*Send for Complete Blueprint*

RED CEDAR SHINGLE BUREAU  
5510-A White Building, Seattle 1, Washington

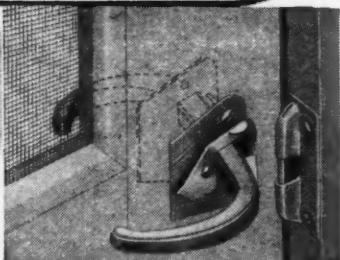
Please send me free blueprints detailing various applications of Red Cedar Shingles.

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*Ideal*  
**BUILDERS' HARDWARE SPECIALTIES**  
 Of Unusual Utility



**ONE-BORE LATCH**

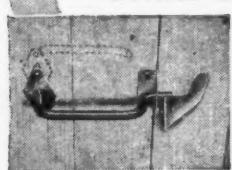
For screen or storm doors. Requires no mortising. Just bore one hole and insert 6 screws. Latching action is in the strike.

**STORM SASH ADJUSTER**



Opens and closes easily with one hand. Locks shut securely with arms swinging upward. Easy to change over, as arms remain on frame.

**BARN DOOR LATCH**



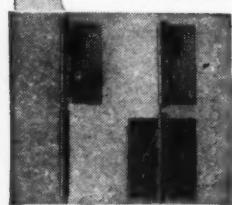
Gravity type—won't freeze or bind. Holds doors open or closed. No pins, nuts or springs to work loose or break. For doors up to two inches thick.

**SNAP-ON SASH LIFT**



Quick to install—just drill two holes for special screws. Lift snaps over screw heads to give a smooth, streamlined appearance.

**HINGES AND BUTTS**



Includes special features for storm and screen doors. May also be used on casement sash. Button tip, loose pin type. 3"x2 3/4".

Also Manufacturers of Stays for Basement and Casement Sash... Screen Hangers... Cupboard Friction Catches... House Numbers... Ask your jobber, or write for literature.

*Ideal*  
 BRASS WORKS, INC.

250 EAST FIFTH STREET  
 ST. PAUL 1, MINNESOTA

(Continued from page 186)  
 shop-fabricated sections consisting of floor, walls and roof which, when connected together on the building site, form the completed home. All the other companies are making panels for the major parts of the house such as walls, partitions, floors, and ceilings.

Mr. Steidle is in charge of the activities of the Institute which is a trade association of established prefabricated home manufacturers located in all parts of the United States and in Canada.

**Nation Faces Severe Shortage of Trained Architects**

THE country faces a shortage of trained architects that will take at least ten years to fill.

That observation was made recently by Leopold Arnaud, Dean of the School of Architecture of Columbia University, who described the demand for architects as being so great that "architecture students graduating from colleges and universities are able to choose from several good jobs rather than being obliged to accept the first offer that comes along."

The shortage, almost as acute as the current lack of building materials, stems from the fact that from 1933 until two years ago the nation's 54 schools of architecture graduated fifty per cent fewer architects than in the "more normal years" preceding the virtual standstill of building during the depression, Dean Arnaud said. Enrollment of new students at the Columbia School of Ar-

(Continued to page 190)

**Saves you TIME and MONEY...**



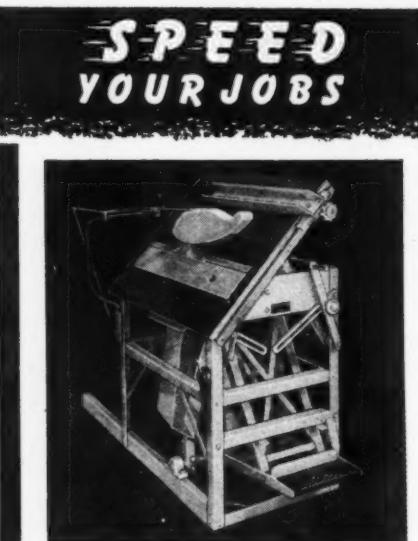
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 Built for years of Service...**

**A**K & E BUILDERS' TRANSIT-LEVEL cuts old fashioned, time-taking methods and streamlines the work. For instance, chalk line, line level, plumb bob and tape — those old "trusties" have gone on and on since "the days when." But they mean that your building mechanics must be constantly stopping. Time is lost from laying bricks, setting steel, carpentering — the jobs your men are hired to do.

So simple that any intelligent man can use them, these instruments are built for years of rugged service, yet they retain their accuracy. Their quality is guaranteed by the K & E reputation and experience of 80 years of making equipment and materials for the engineers of America.

For details of the No. 5155 K & E BUILDERS' TRANSIT-LEVEL (a transit and a level in one instrument), the No. 5153 K & E BUILDERS' LEVEL, K & E Leveling Rods, WYTEFACE\*

\*Trademark



**BUY BEARCAT!**

You'll finish jobs faster with a Bearcat! Speedy foot-pedal swing cut-off . . . Rip, cut-off at all angles . . . Portable from job-to-job . . . Rugged welded steel frame and top . . . Heavy-duty ball bearings. Two sizes: XJR for home builders, XCO for heaviest jobs. QUICK DELIVERY.

DEALERS  
 SOME AREAS  
 STILL OPEN

Write TODAY For Literature

**THE PAXSON CO.**

107 "A" Ave., Dowagiac, Michigan

BUILDING BEARCATS FOR 25 YEARS



Drafting,  
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 and Materials.  
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 Measuring Tapes.

**K+E BUILDERS' TRANSIT-LEVEL**

**KEUFFEL & ESSER CO.**

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You win 2 ways with  
**Fenestra**  
**STANDARDIZED STEEL**  
**FLOOR STRUCTURE**



**2. IT APPEALS TO HOME BUYERS.**

And no wonder! It's an incombustible floor—safer. It can't warp or shrink. It provides a most attractive ceiling for the basement . . . an excellent support for plaster or other ceiling surfaces where desired. This steel floor tells prospective customers that you have built a sturdy, durable, up-to-date house.

**1. IT GOES IN FAST!**

The panels combine joist, bridging and subflooring in a single unit. Two men, without special skill or special tools, lay standardized panels 16" wide in standard joist lengths. The smooth top surface is then ready for application of linoleum, wood or other finished floors of your choice. Compare this fast installation with the piece-by-piece methods so commonly used.

• Fenestra Building Panels come in a range of types, sizes and weights for almost any building need—for floors, walls, roofs, ceilings and partitions. For insulated walls, Fenestra's Type C Panel is filled, at the factory, with insulating material. For full information on Fenestra Metal Building Panels, mail the coupon, or call us.



DETROIT STEEL PRODUCTS COMPANY  
 Building Panels Division  
 Dept. AB-10, 2260 E. Grand Boulevard  
 Detroit 11, Michigan

Please send me, without obligation, information on Fenestra Building Panels.

Name \_\_\_\_\_  
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## VAPOR Condensation Lots of Fun on Windows



### Lots of Trouble Within Walls

Harmless on windows, moisture condensation plays havoc within walls. Uncontrolled condensation can make insulation soggy and inefficient, cause paint peeling, wall stains—even structure rot. A sure way to prevent these costly evils is with a separate vapor barrier. Architects everywhere specify the standard—Bird Neponset Black Vapor Barrier. Applied on the warm side of insulation, Bird Neponset Black repels vapor, keeps insulation at peak efficiency, ends other condensation evils. Only about \$20 buys life-long protection for a \$10,000 building. See Sweet's Architectural file, 9b-2. For sample, write Bird & Son, inc., 173 Washington St., East Walpole, Mass.



**Specifications:** roll width: 36"; Sq. feet: 500; approximate wt.: 50 lbs. Asphalt Saturated. Coated both sides with glossy asphalt surface. Meets Federal Specifications UU-P-536 Grade B.

### BIRD NEPONSET BLACK VAPOR BARRIER

BIRD & SON, inc., E. WALPOLE, MASS.  
CHICAGO NEW YORK SHREVEPORT

(Continued from page 188)  
chitecture, for example, dropped in one year from 32 students in 1932 to 15 in 1933.

Beginning two years ago, however, the building industry once more started to receive its "normal" flow of 700 new architects each spring. With veterans seeking admission to the schools under the GI Bill and many of them returning to the classrooms they left, it is expected that close to 800 architects will be trained annually until the present shortage is eased "within approximately ten years," Dean Arnaud added.

Simultaneous with the building boom, which is expected to begin within a year and last for eight or nine, schools of architecture probably will be flooded with applications for admission. This fall's entering class of 30 at Columbia, Dean Arnaud said, was selected from 175 candidates for admission, almost three times the normal number.

Although the dearth of architects will appreciably hamper the building of houses, offices and housing groups in the expected boom, hardest hit will be the small community seeking a town planner, Dean Arnaud pointed out. At the moment, he said, "there is practically no one available to fill the many vacancies. The prospect of getting trained town planners is not bright because the job usually requires graduate study and there are few students who have the incentive to spend time in graduate work when there are so many jobs around."



### Stainless Steel Sinkbowls

Legion sinkbowls are seamless drawn from one piece of solid or single clad stainless steel...No welds, rough edges, ridges or grooves to cause leaks, corrosion or cracks where dirt may lodge...Light in weight, yet rigid and long-wearing..., Oblong, square, round or oval shapes.

Write for catalog sheet.



### LEGION STAINLESS SINK CORP.

21-13 40th Avenue, Long Island City 1, N. Y.

THIRD EDITION

## SIMPLIFIED CARPENTRY ESTIMATING

By J. DOUGLAS WILSON

Coordinator, Apprentice Education,  
Carpentry and Cabinet Making Los  
Angeles City Schools Los Angeles,  
California

and CLELL M. ROGERS

Mathematics Instructor,  
Venice High School, Venice, California

A practical text on carpentry estimating, covering rough lumber, finish lumber and hardware, in which the parts of a house are analyzed under six main divisions. Material lists, short cut rules and tables supplement the text and guard against anything being overlooked in making up the final estimate. Valuable information is given for making labor time estimates.

While designed as a beginner's text the Third Edition is complete enough for the use of builders and lumber dealers. Simple arithmetical methods for accurate estimating, are given. Helpful tables that save much time in figuring and a full index make the book suitable for quick reference in the shop or on the job.

#### Contents

Estimating Fundamentals. Foundation Material. Framing. Exterior Finish. Interior Finish. Hardware. Building Information. Estimating Short Cuts. Labor Hours per Unit of Work. Carpentry mensuration, Mathematical Reference Tables. A Guide to Home Planning. Index. 1947. 3rd. 288 pages, 123 illustrations, 60 tables, 5x7, \$3.00.

Book Department

## AMERICAN BUILDER and BUILDING AGE

30 Church Street New York 7, N. Y.



# Announcement

to those who sell, buy, specify or install  
Douglas Fir Doors



**EFFECTIVE** August 15, 1947, all doors manufactured by member factories of the Fir Door Institute were placed under official F.D.I. inspection — to assure the highest possible degree of product quality and uniformity.

At the same time, revised industry standards were adopted by Institute members, those changes including new dimension specifications.

With the start of inspection, based on F.D.I. standards, Douglas fir pre-fit stock doors are now manufactured:

1/8-inch less than net book height;  
3/16-inch less than net book width.

These new sizes permit pre-fit stock doors to be installed without sawing, trimming, or planing — *saving on-the-job time and reducing costs.*

The official F.D.I. seal and grade-mark will be placed on every door coming under the Fir Door Institute inspection service — and *only* on officially inspected doors. Grades will continue to be indicated by the letters A, B, C and MR; and such grades will be maintained in strict accordance with the industry standard.

*The official Fir Door Institute seal — reproduced in the heading of this advertisement — is a symbol of fine craftsmanship now backed for the first time by a rigid inspection. Specify Douglas fir doors by this "grade trademark" — your assurance of controlled quality and product uniformity.*



THE NATIONAL ASSOCIATION OF

DOUGLAS FIR DOOR MANUFACTURERS



# CONCRETE BLOCK HOMES

*Why not?*

## Use Plans PROVEN Best Buy for Today's Dollar!

Mr. Al La Pierre and Associates of Seattle recently sold 13 of their concrete block "Permaetherm homes" on one Sunday at their Ridge Crest development. All were built from the Wollander Package of Plans.

This complete package of concrete block house plans for operative builders, gives clear details for successful block construction, plus many embellishments to vary the design and "warm up" the appearance of the concrete block wall. You can reduce building costs and create more attractive, sturdy and salable homes by using Wollander Concrete House Plans.

Wollander offers you this complete package of practical plans, designed especially for use of 8x8x16 concrete blocks. Proven by some 500 homes built, using these plans, they are the hottest selling homes on the market today.

The Wollander Plan Package is available to builders operating anywhere except in Washington and Oregon where plans can be obtained through the established Wollander Better Builder Plans Service.

### Plan Package

Contains 6 proven basic plans with attached garages, two and three bedrooms, over 35 excellent exteriors permitting wide variety in group housing; also radiant heat layouts, beautifully rendered exteriors for display and selling, together with plans 1/4 inch scale fully detailed.

\$100

#### COUPON—ORDER TODAY

W. A. Wollander, Tacoma Bldg.,  
Tacoma 2, Washington

Enclosed is check for \$100, for which send your new Complete Package of Working Drawings for Concrete Block Homes.

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Town ..... State .....  
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#### I.M.W.I. Booklet Issued On Mineral Wool Insulation

INSULATION techniques for cold storage, freezing, cooling and air conditioning operations are described in a new 24-page manual issued by the Industrial Mineral Wool Institute.

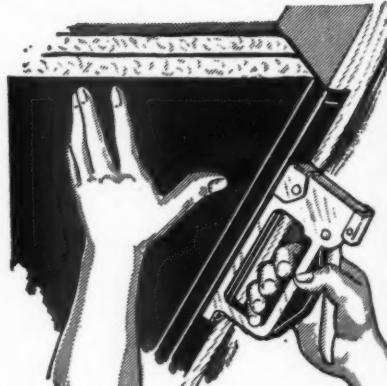
The booklet includes advice on selecting insulation, data on forms, properties and application methods; a useful chapter on the principles and significance of vapor proofing various types of wall, floor and ceiling construction. It is illustrated with photographs, charts and tables and analyzes typical case histories of installations in cold storage work, freezing processes, cold aging, good distribution, industrial refrigeration and air conditioning. Single copies are available free from the Industrial Mineral Wool Institute, 441 Lexington Ave., New York City 17.

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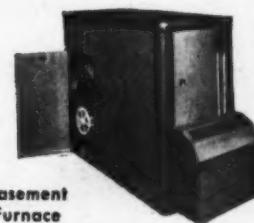
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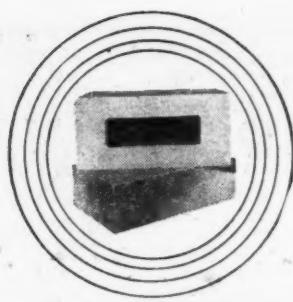
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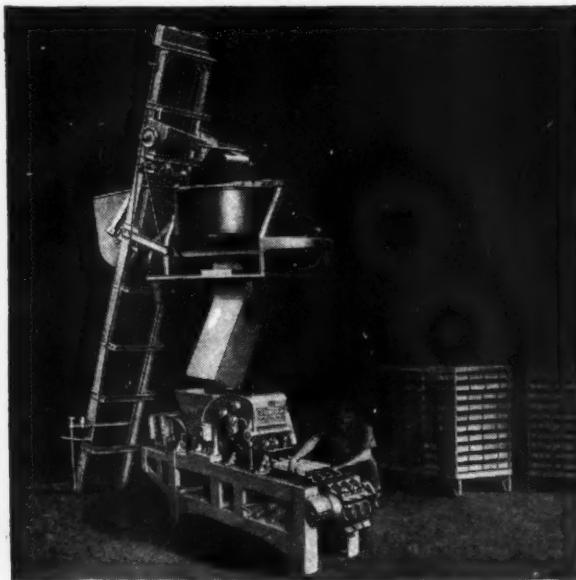
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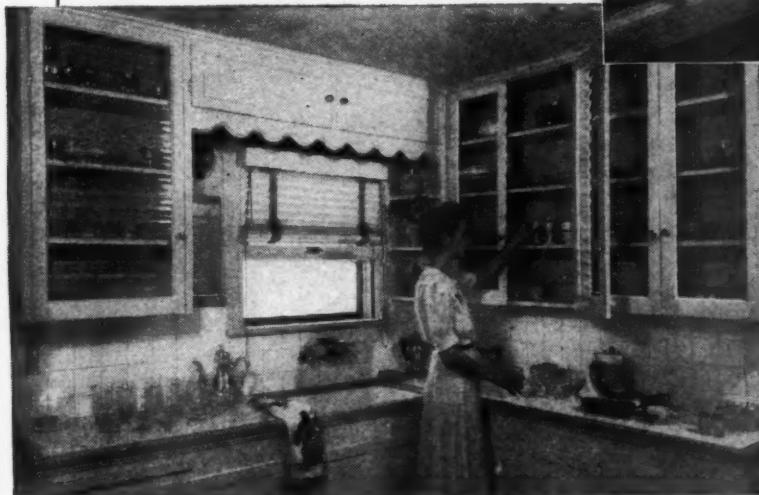
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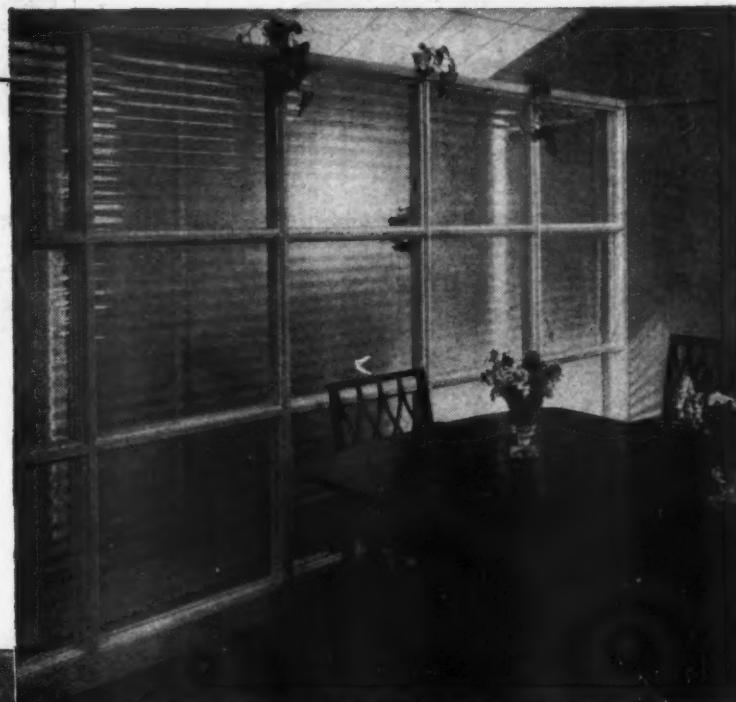


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*Satinol Luminex* panels diffuse light without glare over this skylight library. Harwell Hamilton Harris, Designer.

*For Ideas* Send 10c for booklet "Bright Ideas with Decorative Glass". Blue Ridge Sales Division, Libbey-Owens-Ford Glass Co., 1107A Nicholas Building, Toledo 3, Ohio.



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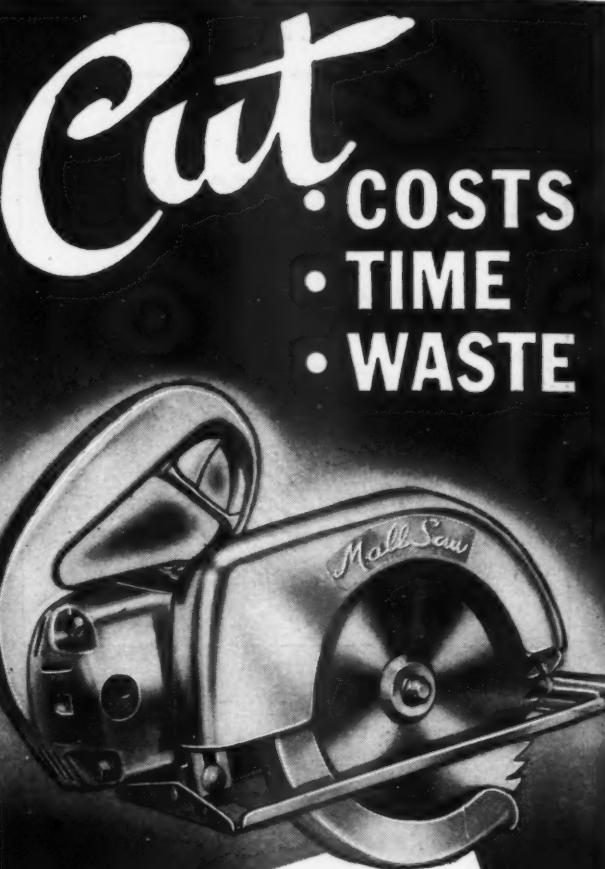
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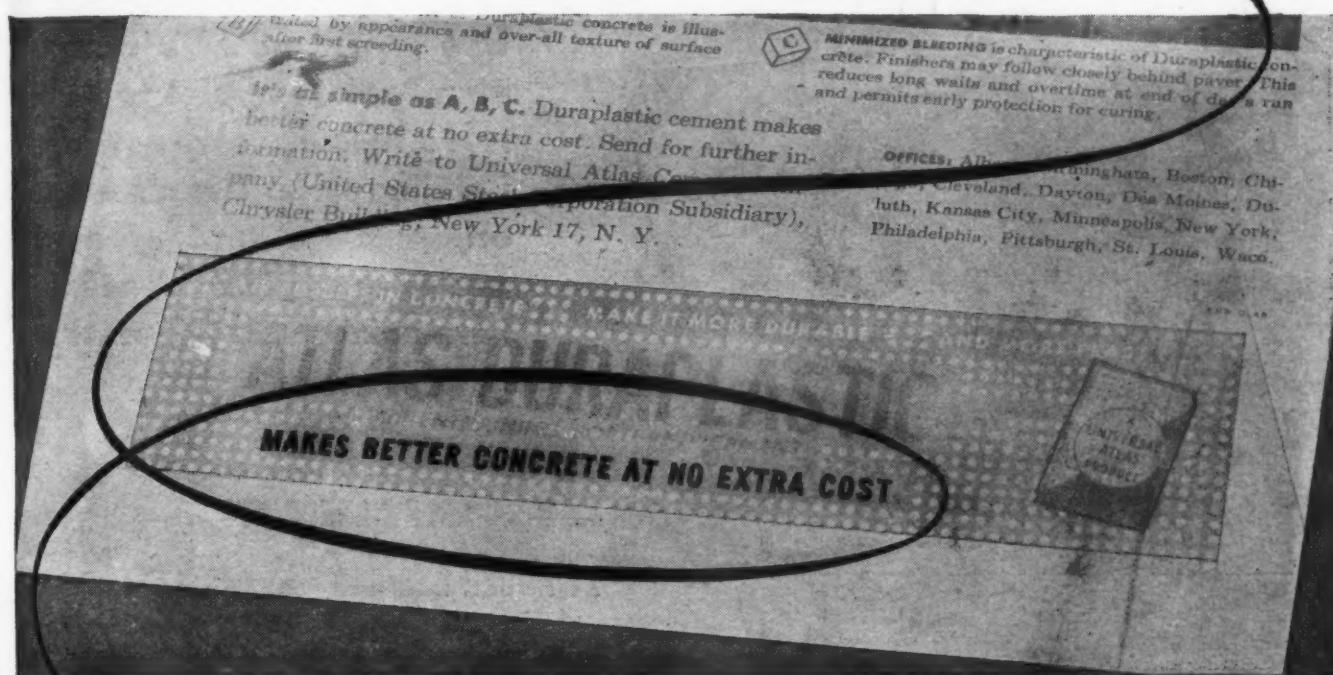
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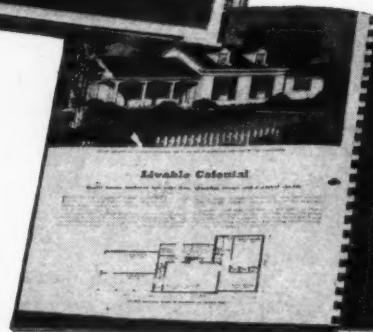
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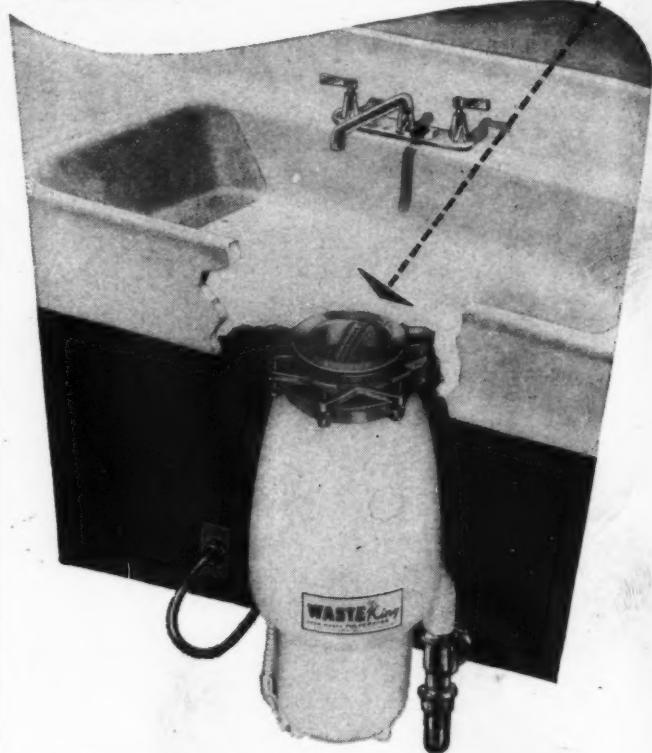


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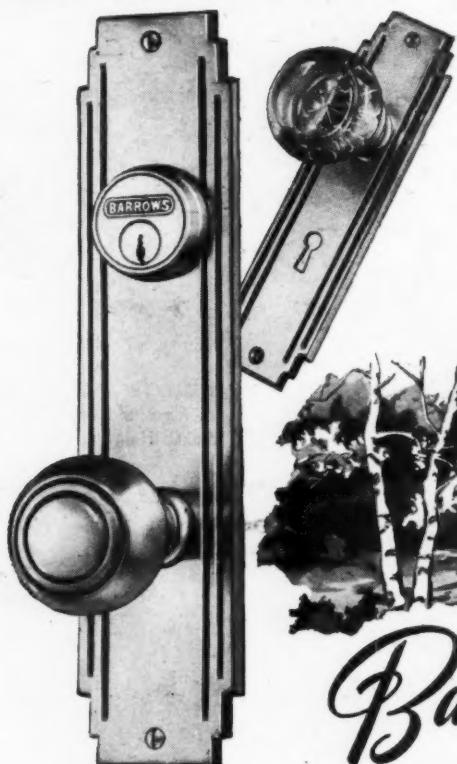
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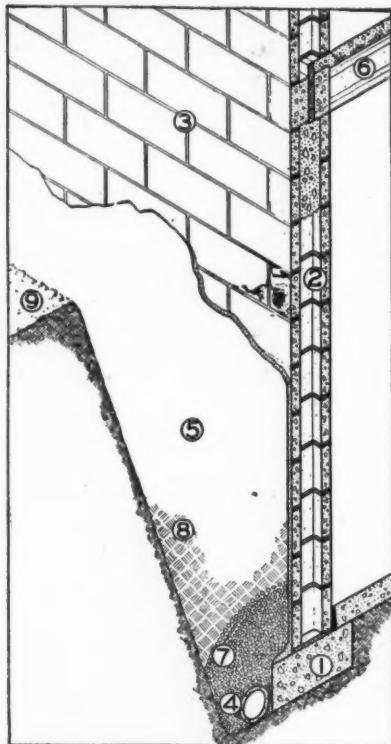
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3. Be sure that all mortar joints are filled and mortar is thoroughly compacted.
4. Place drain tile at side of footing as shown in drawing.
5. Apply two  $\frac{1}{4}$ " coats of portland cement plaster on earth side of wall. Where extremely wet, poorly-drained soil prevails, apply either directly over concrete masonry wall or over the plaster coating two coats of burlap or roofing felt mopped on with hot tar or asphalt.
6. Build first floor *before* backfilling.
7. Place gravel fill over drain tile.
8. Place earth fill, free from debris, in even, tamped layers over gravel.
9. Slope final grading away from wall.

*For more details write for free folder, "Recommended Practice for Building Watertight Basements with Concrete." Distributed only in United States and Canada.*

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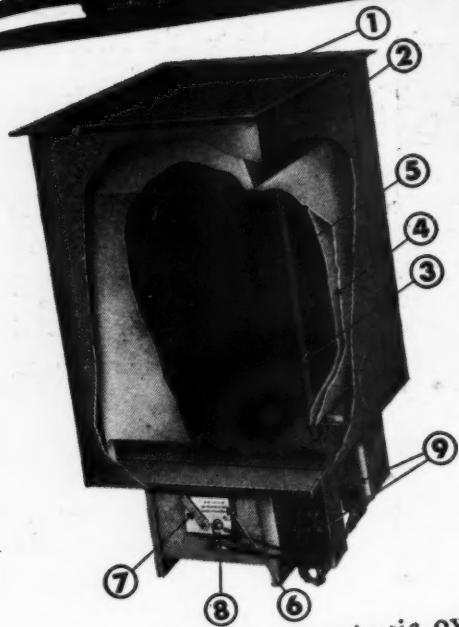
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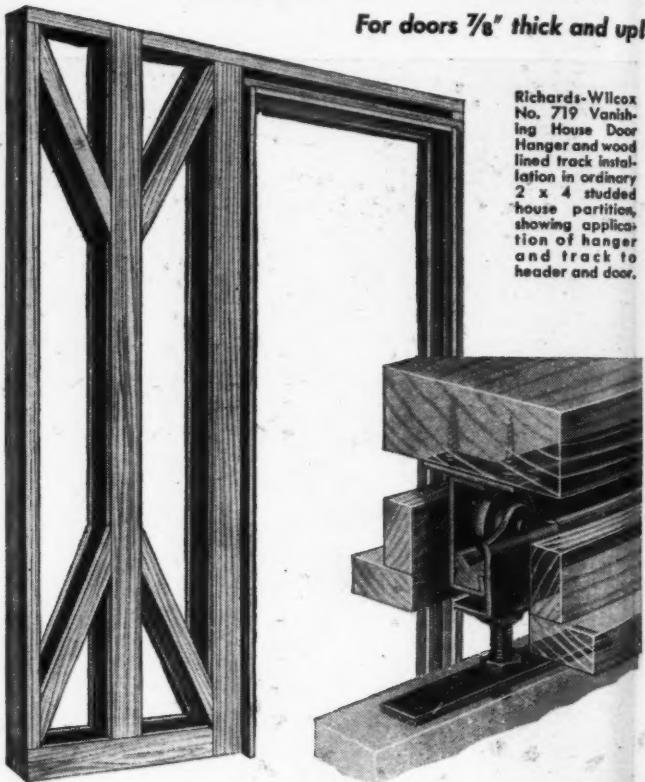
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American Builder, October 1947.



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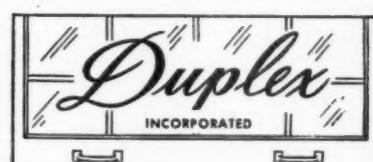
Is it any wonder that so many builders tell us, "Duplex Sash Balances Help Sell Houses."

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Easily adjusted for exactly the right tension with a screw driver at time of installation.

#### DUPLEX PRE-SET FLAT SASH BALANCE

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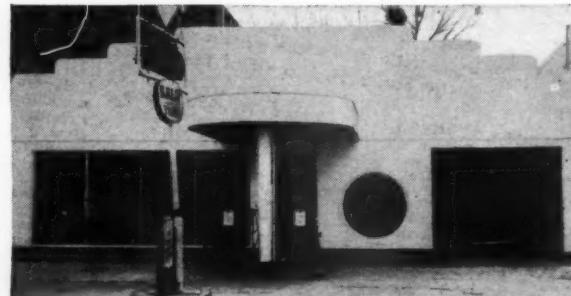
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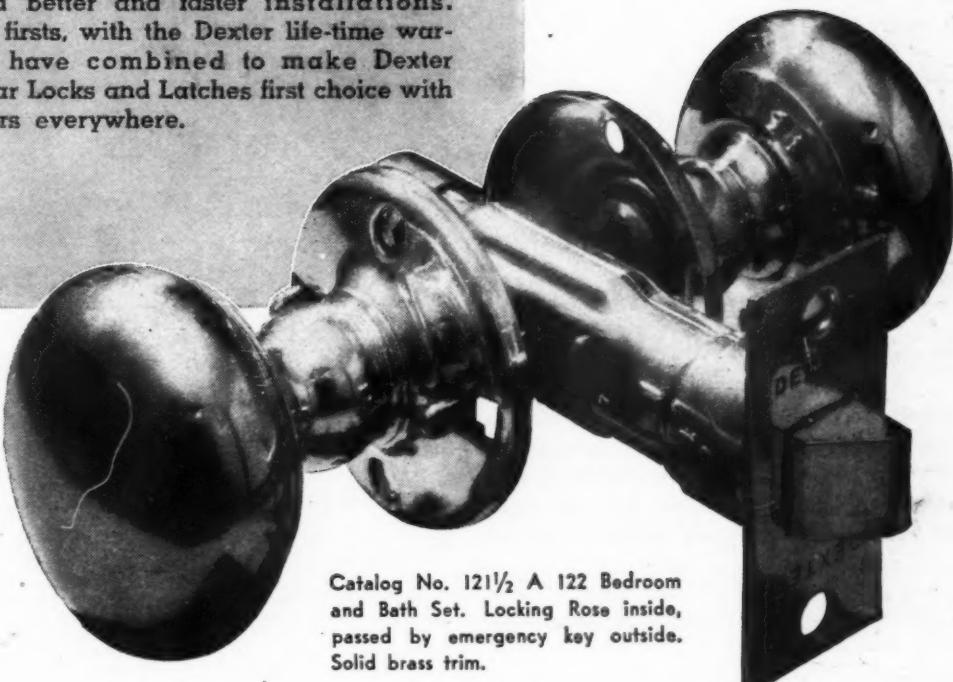
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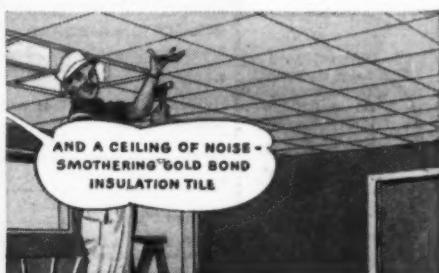
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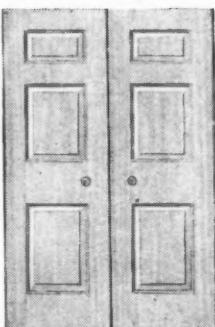
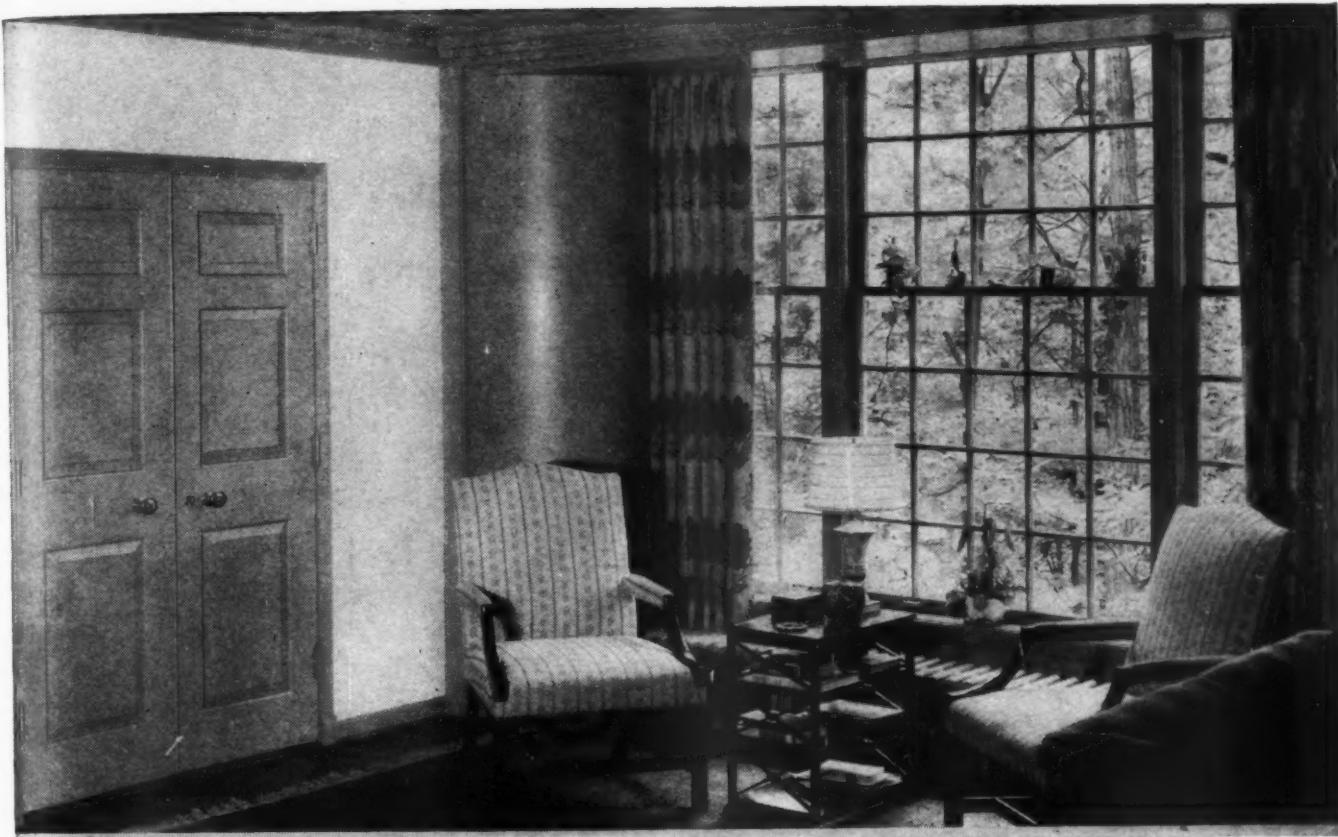
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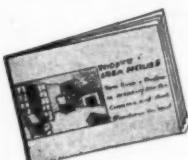
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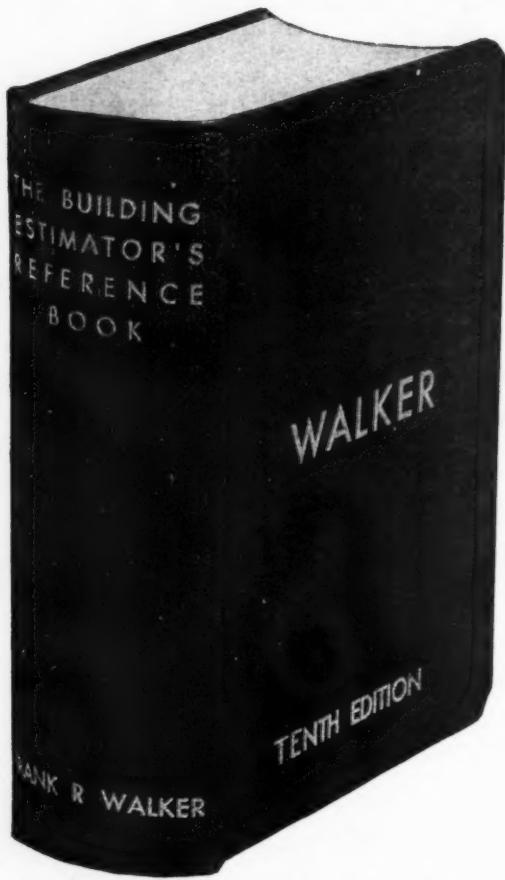
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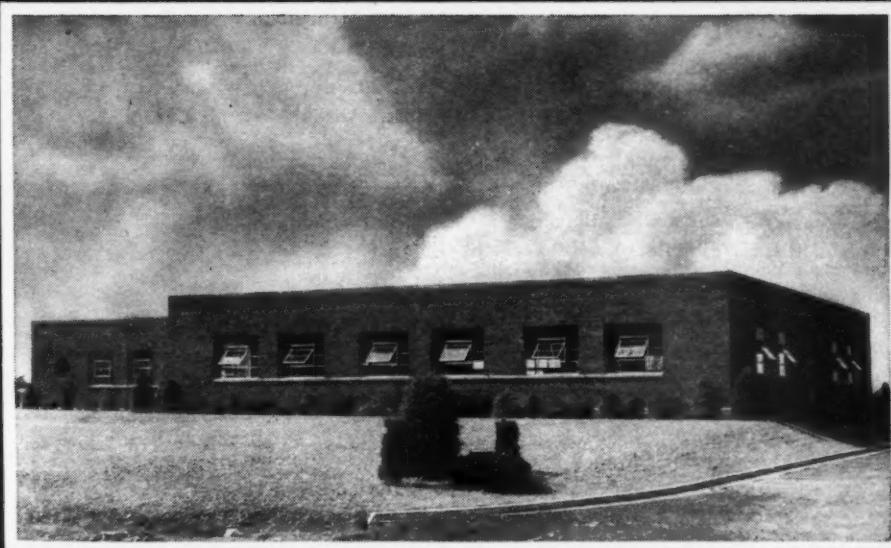
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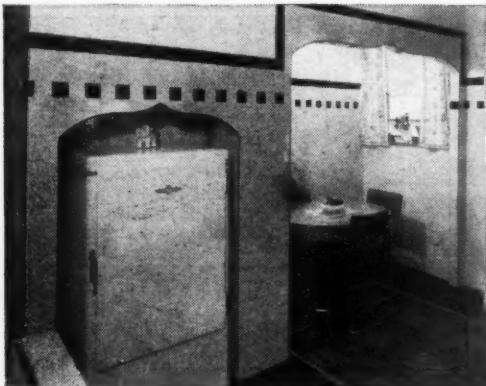
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### VOLUME FINANCING

(Continued from page 89)

permitting a builder capable of constructing five units under the conventional plan to easily enlarge his program to 25 units, and so on.

This method of construction loan disbursement is now possible under Title VI of the National Housing Act where FHA has issued firm commitments to insure mortgages upon satisfactory completion of the dwelling.

Another phase of the FHA program is the section 608 procedure under which mortgages on rental housing may be insured, also up to 90 per cent of the necessary current cost of the property, including land and improvements.

To build and finance a project under this program, the first step is to study the community to determine the type of living accommodations in greatest demand. Having located a suitable site, the prospective builder should discuss the proposal with the FHA office to obtain an informal opinion of its acceptability.

If the FHA office agrees to the need and is favorable to the location, the builder may acquire or obtain an option on the property and make preliminary plans and an estimate of cost. With this material the builder and his lender apply to FHA for mortgage insurance, submitting the required exhibits and a check to cover the cost of examination.

Upon completion of its examination, if the FHA issues a commitment to insure the mortgage loan, the builder proceeds with his plans and construction may get started, after the mortgage has been insured.

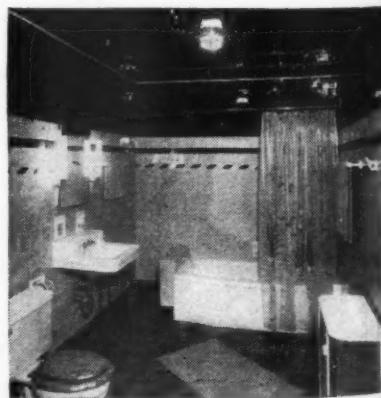
FHA administrative rules and regulations under section 608 distinguish sharply between mortgages not exceeding \$200,000 in original principal amount and those above that amount. The mortgagor in the case of mortgages not exceeding \$200,000 may be an individual, partnership, or corporation. No supervisory powers over operation of the project are exercised or held by FHA.

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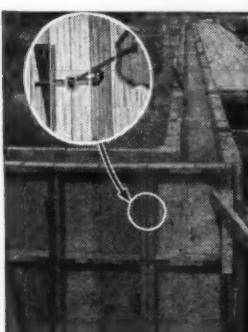
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Slide rule abrasive selector quickly answers hundreds of finishing problems.

**Safe Storage—Saves Time**

All steel case contains Sterling Portable Electric Sander (for fast, economical finishing), extra sanding pads, oil, grease, filter — plus the new slide rule abrasive selector. Write for descriptive folder that gives all details on Sander operation and kit.

**STERLING TOOL PRODUCTS CO.,**  
370-K East Ohio St., Chicago 11, Ill.

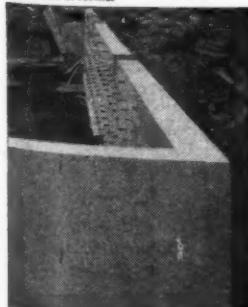
**STERLING PORTABLE ELECTRIC SANDERS**

**SAVE 11 COSTLY STEPS PER WALL**

with  
**SYMONS SYSTEM  
WALLFORMS**

count your savings in  
**Time, Labor, Materials**

Inset shows how Symons System speeds erection and stripping of forms. Connecting bolt, passing through adjoining forms and form tie, is drawn tight by wedge. This simple device cuts forming labor 50% doubles life of forms.



Stripped foundation is smooth, free of tie marks. Tie rods break back easily and cleanly. Symons System of looped tie rods and connecting bolts assures uniform wall thickness.



**SYMONS Clamp & Mfg. Co.**  
4261 DIVERSEY AVE. CHICAGO 39, ILL.



# Fresh, clean air in kitchens HELPS SELL HOMES



It's the extras that help sell a home, such as proper ventilation in kitchens and laundries. The Westinghouse Poweraire Home Ventilator is the practical answer to that problem.

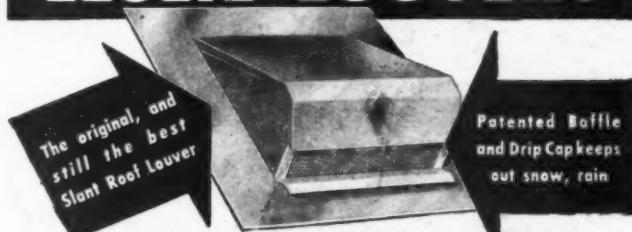
Easily installed in any standard wall thickness. Single pull chain control. Has

insulated outside door. It's economical, too; it uses no more current than a 50-watt bulb... changes the air in an average sized kitchen every two minutes.

New in production. Contact your Westinghouse supplier in your locality for further details.

**Westinghouse Long-Life FANS**

WESTINGHOUSE ELECTRIC CORPORATION  
ELECTRIC APPLIANCE DIVISION • SPRINGFIELD 2 MASS

**LESLIE LOUVERS**

You can count on LESLIE LOUVERS to combine the most advanced design features with top quality construction because they are made by louver specialists . . . recognized as the leader in the attic ventilation field.

LESLIE LOUVERS have the eye appeal which means customer acceptance and prices that spell profits for builder, dealer and jobber. LESLIE LOUVERS resist weather action because they are made only from galvanized sheet steel.

Made in 3 models and 12 sizes to meet every building and insulating requirement. Vertical Flush Flange and Box Frame Models are each made in 5 sizes. Slant Roof Model available in 2 sizes.

IMMEDIATE SHIPMENT FROM STOCK  
on all models and sizes!

DEALERS . . . CONTRACTORS . . . write  
for name of nearest Jobber.

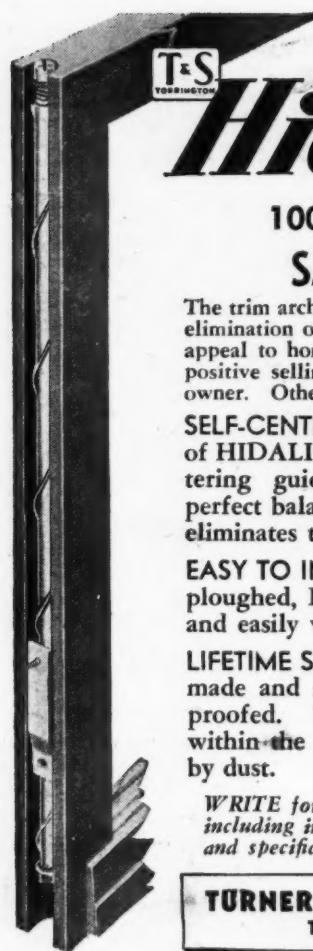
"VB" Series  
SELF-FRAMING  
for NEW CON-  
STRUCTION

Effective  
drip edge



**LESLIE WELDING CO.**

2937 W. CARROLL AVE. • CHICAGO 12, ILL.



The trim architectural lines made possible by the elimination of bulky old-style sash-weight boxes appeal to home designers and builders . . . are positive selling points to the prospective home owner. Other important features are:

**SELF-CENTERING** An exclusive feature of HIDALIFT Sash Balance is the self-centering guide bushing which maintains perfect balance . . . prevents jamming . . . eliminates templates in installation.

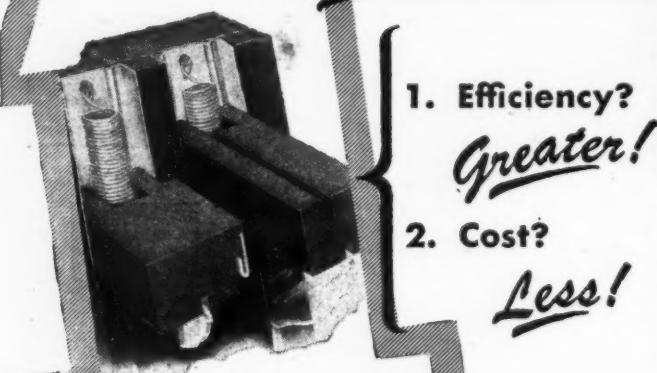
**EASY TO INSTALL** After a sash has been ploughed, HIDALIFT is attached quickly and easily with only two screws.

**LIFETIME SERVICE** HIDALIFT is sturdily made and all parts are permanently rust proofed. The tension spring is sealed within the tubing to prevent wear caused by dust.

*WRITE for completely descriptive literature including installation details and listing sizes and specifications for all standard sash sizes.*

**TURNER & SEYMOUR MFG. CO.**  
TORRINGTON, CONN.

## A Single ANSWER to 2 PROBLEMS!



### Milwaukee SASH BALANCE WEATHERSTRIP COMBINATION

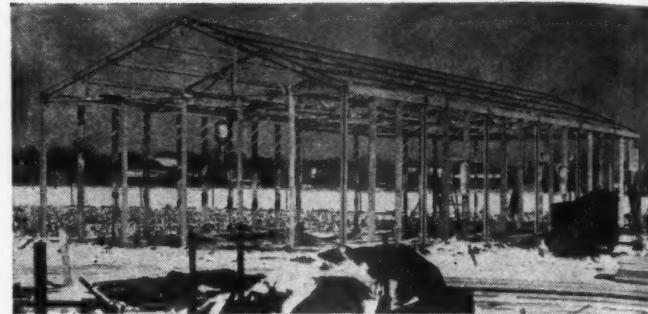


For new or old building. Easily installed bronze channel strips and rust-proof steel springs. Smooth, quiet, efficient operation. A tried product that builders swear by . . . used with outstanding results in Milwaukee for 10 years . . . now available on national market.

DEALER INQUIRIES INVITED

Manufactured by

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Dept. B. — 3806 W. Burleigh Street, Milwaukee, Wisconsin



RIGID welded framework is erected on poured concrete footings.

### "Site-Welded" All-Metal Barns, Shops and Warehouses

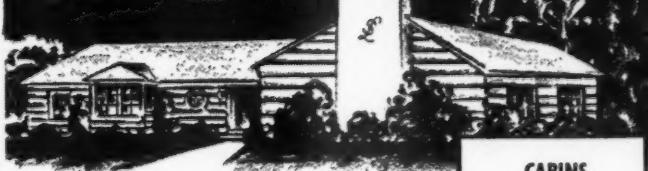
**T**HE new type of prefabricated, "site-welded" all-metal farm utility building, is considered ideal for tool sheds, barns, work buildings, cattle shelter, warehouses and shops. The one described here was produced by Howard Welded Buildings, Inc., Davenport, Iowa.

The building is constructed of standard rolled structural sections, completely welded and erected at the site. To these structural welded sections, corrugated sheet metal is applied with cadmium plated, self-tapping screws. The rigid frame gives strength to the structure, only a minimum load falling on the sheets. Wood studs and sill plate are provided for insulation. Five men can erect buildings of this type in about a week's time. The chatter-proof construction cannot loosen or rattle.

Alan S. Howard, president of the company, states that the building is easily adaptable to any length in multiples of 12 feet, with doors eight or ten feet high and 24 feet or 36 feet wide. A good variety of arrangements is available to fit any

(Continued to page 220)

## LOG STRUCTURES

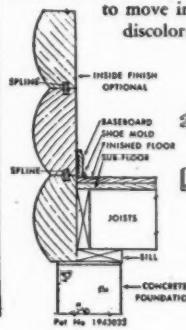


For unusual homes of character and distinction...for typical western homes of rustic beauty. Materials available NOW...not 30 days...not next week...but TODAY!

Effects substantial savings in construction costs. No studding required. Meets FHA construction requirements and is easily financed through FHA loans or your local bank.

Conventional or rustic interior finish and modern arrangements...adaptable to any floor plan. Solid wood walls provide best insulation against heat and cold. Average home can be completed in 30 days ready

to move in! Chemically treated to resist discoloration, dry rot, and termites



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Available

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TRANSIT**

*with coated optics*

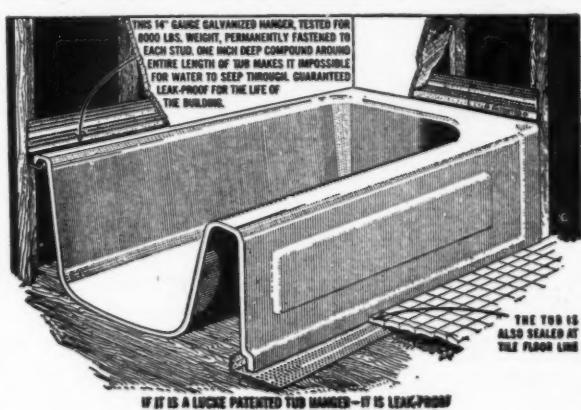
Rugged — accurate — highly dependable, the Universal Level-Transit offers builders an all-purpose instrument of unexcelled practicality and versatility. Quickly converted from a precision level to a highly accurate transit in two easy motions.

Patented ball-bearing race assures perfect adjustment under severest conditions. Telescope 12" long, 25 power, horizontal circle 4½" with Verniers to 5 minutes. Write today for full information — also free booklet, "How To Lay Out Building Lots."

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Its installation is the only expense.  
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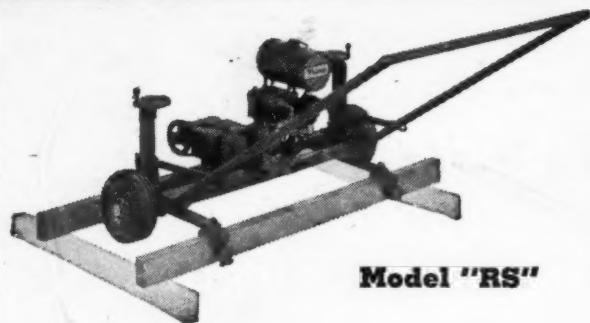
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Write or wire for details of Rodding Machines and Floating-Finishing Machines.

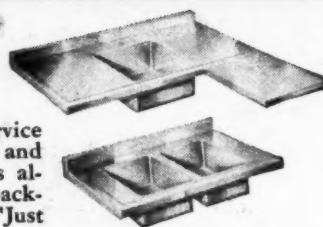


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WITH TWO IMPORTANT EXCLUSIVE ADVANTAGES:

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ALL-WELDED, seamless construction polished to a beautiful satin finish . . . radius corners in bowls vertically and horizontally . . . fully sound deadened, and many other quality features.

Other JUST LINE products are: Cabineteer Stainless Steel Sinks, Stainless Steel Sink Bowls, and Scullery Sinks, Galvanized Scullery



Sinks hot-dip galvanized after fabrication, as well as Stainless Steel equipment for hospitals, schools, factories and institutions. Write today for bulletins and details.

**Just Manufacturing Co.**  
4610-20 W. 21st Street, Chicago 50, Illinois

(Continued from page 218)  
individual specifications. Cost of this type of construction, knocked down, is around 11 cents per cubic foot.

While the original plans for a building, like the one shown, call for galvanized roofing and siding, corrugated aluminum also is available. Trusses can carry a load up to 1,000 pounds which permits the installation of a trolley and hoist. According to company officials, this prefabricated erected-on-the-site structure complies with city building codes and is



INTERIOR and exterior views of "site-welded" steel warehouse.



capable of withstanding the worst storm loads in northern climates.

There is an additional advantage to this type of construction. It can be built in very cold weather. This gives it an appeal to farmers who have more time available for bringing their buildings and equipment up to date during the winter than they do in summer when crops require their full attention.

There is considerable space for limited storage of materials above the trusses in the structure. In farm buildings it can be used for storing supplies and tools. In small shops, it will provide space for storing raw materials for work that is in process.

This type of prefabricated, site-welded construction is versatile, with a wide range of possibilities. Its adaptability to varied length and the fact that it can be built just as well in winter as in summer widen its appeal.



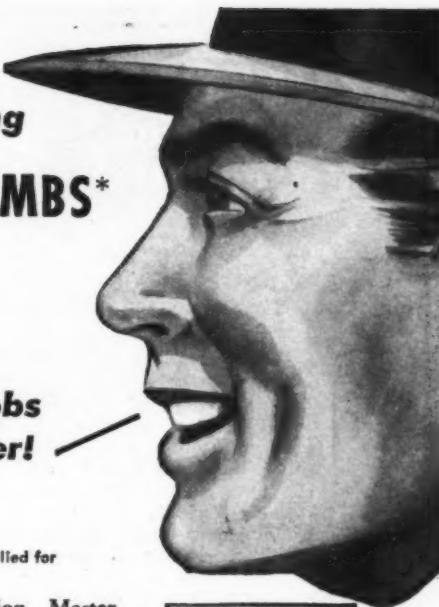
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You Mean I Save Money Using  
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Yes. And You'll  
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Wise builders the country over are learning that factory-built Tru-sized Door Jambs save time and money. Do a top-quality job faster! No nailing, no squaring, no plumbing with wedges, no stops to install.

With only a screwdriver and a level, you can

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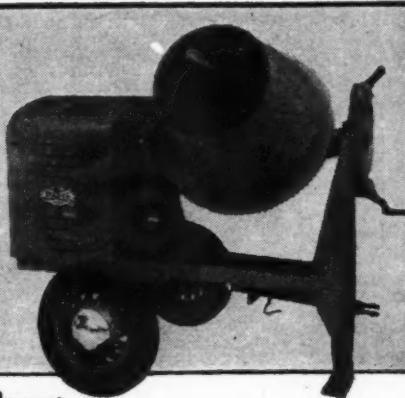
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Please attach a letter stating your age, occupation, employer's name and address, and name and address of at least one business man as a reference. Men in service, also give home address.

#### Up-to-Date EDITION

These books are the most up-to-date and complete we have ever published on these many subjects.

### Eagle-Picher Acquires Control of Alston-Lucas Paint Company

THE purchase of a controlling interest in the Alston-Lucas Paint Company of Lyons, Illinois by the Eagle-Picher Company of Cincinnati, Ohio has been announced by J. M. Bowly, president of Eagle-Picher.

This acquisition by Eagle-Picher brings together two of the oldest names in the paint industry. Eagle-Picher has been a leader in the fields of zinc and lead products, insulation and building materials for 104 years. Alston-Lucas was founded in 1848.

Alston-Lucas manufactures a complete line of exterior and interior paints, enamels, varnishes and industrial finishes. Manufacturing facilities include a plant at Lyons, a Chicago suburb, and a plant in Oklahoma City. Plans are underway for the erection of a third plant at Atlanta, Ga. Charles W. Ptacek, who acquired control of Alston-Lucas in 1940, will continue as president and general manager.

### Fischer to Head Wood Specialty Sales

THE Wood Conversion Company of St. Paul, Minn., has appointed J. D. Fischer as manager of specialty product sales. The firm manufactures wood fiber products and is one of the Weyerhaeuser forest products group.

Mr. Fischer served as New York district manager for the company from 1943 until the present. He joined the company in 1936 as salesman of wood fiber products in Connecticut.

### Opens Cleveland Branch

THE Clipper Manufacturing Company, makers of masonry saws, blades and portable hoists, have opened a new branch office at 208 Noble Court, Cleveland. The branch will stock a complete line of company items to provide overnight service to surrounding states. William E. Davis has been appointed district manager and Robert M. Stubbs office manager for the new branch.

### Bar-Brook Moves to New Plant

ALL manufacturing, sales and executive departments of the Bar-Brook Manufacturing Company, Shreveport, La., are now located in the company's new sheet metal and steel framed building on Linwood Avenue in that city. The new building has 40,000 square feet of floor space and will house two production lines for the manufacture of attic fans and window fans.

Concurrent with the move, Taylor Barnes, president, announced the consolidation of the Pioneer Metal Manufacturing Company and the Shreveport Engineering Company. The names of both are being discontinued and all operations will henceforth carry on under the name Bar-Brook Manufacturing Company.

Bar-Brook's new window fan, equipped with louvers which make it as attractive as venetian blinds, is finding a market in the northern states as well as the south where forced ventilation has become the accepted method of summer cool-

(Continued to page 224)

*Save time!*

Get Smoother Floors

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FLOOR SANDER

Drum Diameter—7½".  
Drum Speed—1800 r.p.m.  
Surface Speed—3534  
Feet Per Minute!

WRITE DEPT. AB FOR FULL DETAILS

**REID-WAY, INC.**

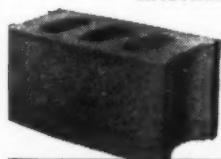
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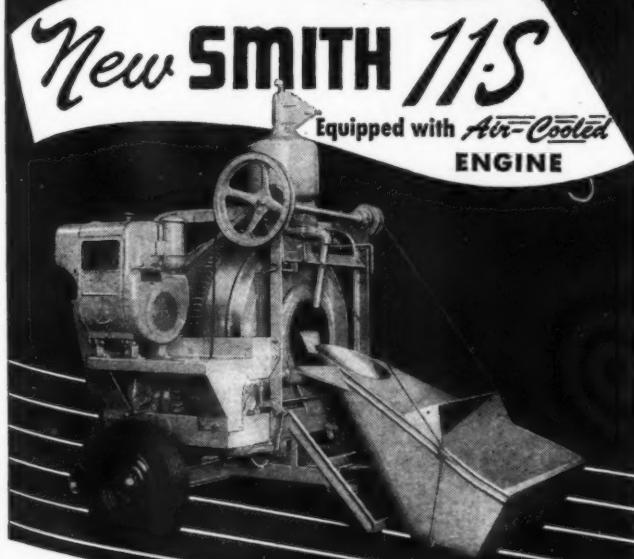


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2. Improves Workability of Mix.
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4. Effects Better Cement Dispersion.
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TRIMIX is used extensively in all concrete work (ready-mixed, hand-mixed, Gunite process), stucco construction, mortar mixes, patching and maintenance, grouting, foundation walls and footings, floor construction, integral hardening of concrete surfaces, etc.

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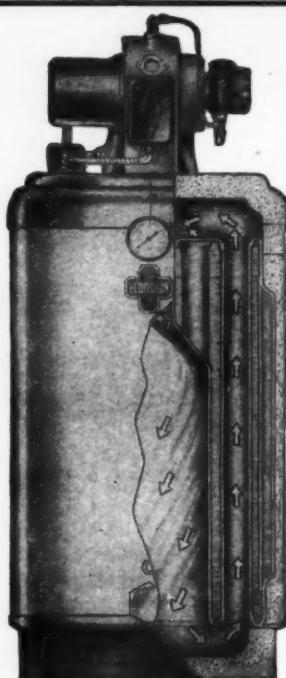
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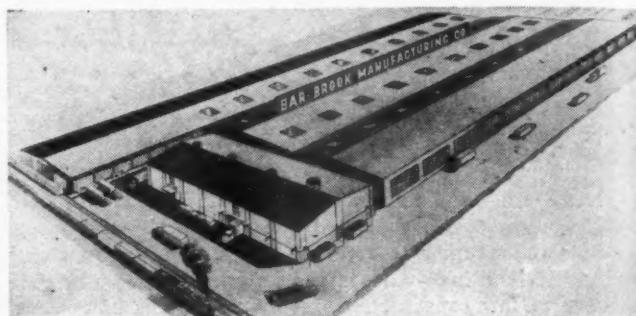
NAME.....

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(Continued from page 222)  
ing. The acceptance the window fan has received nationally is largely responsible for the expansion in manufacturing facilities.



NEW home of Bar-Brook Manufacturing Company

**Postal Guide Supplies Elements  
Needed for a House—Built with Words**

"THESE days of scant building material have worked on our mentality so much that we are ready to grasp anything to relieve our shortage," writes G. Harris Danzberger, of West Chester, Pa. Frankly, we found much solace and mental peace in the U. S. Postal Guide. For there, in good clear print, was all we needed.

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"For the foundation, there is Cement (Okla.), Sand (Texas), Gravelly (Ark.), and Waters (Mich.) which if you Mix (La.) together you will get Concrete (N.D.). We can put your Plasteron (Va.) later.

"We told our Carpenter (Iowa) to go to Oak Forest (Ill.) and there Cross Cut (Texas), Rippon (Texas) and Sawyer-  
(Continued to page 226)

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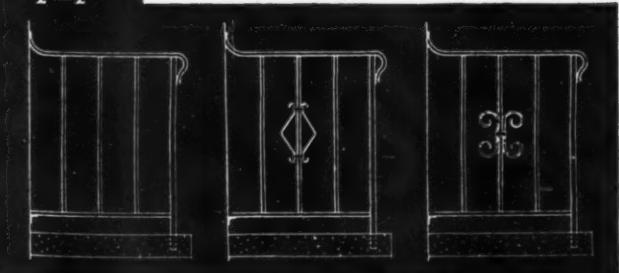
## ENTRANCE RAILS FROM STOCK SAVE MONEY-TIME

FIVE SIZES SHOWN AT LEFT

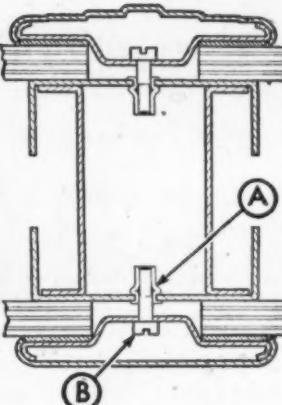
A size for every home—a design for every taste! That's what you get in STOK-RAILS (stock size entrance rails) . . . and at a saving of nearly 50% compared to made-to-measure rails. STOK-RAILS are standard construction: 2' 8" high, 1" sq. posts,  $\frac{1}{2}$ " square upright bars,  $\frac{1}{2}$ " channel top with lamb's tongue finish. Painted black. Available in 3 designs shown below. Order from your dealer or write.

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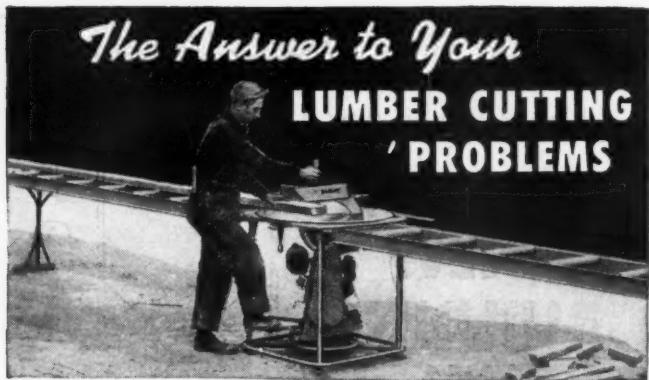
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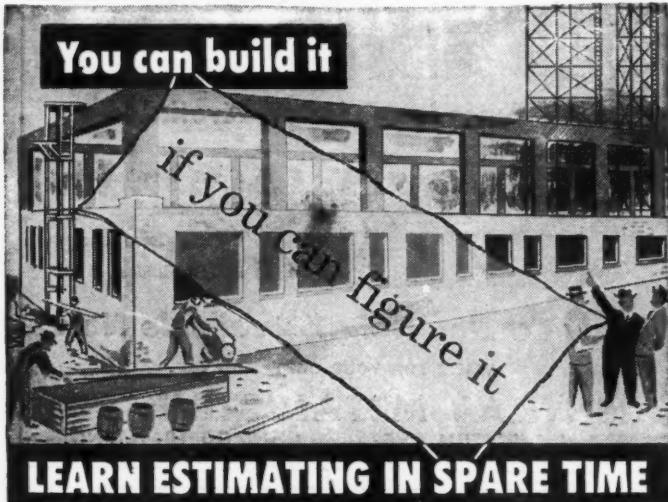


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SEND NO MONEY! TRY IT BEFORE YOU BUY!

(Continued from page 224)

wood (Texas) to get enough Fallentimber (Pa.) and Hardwood (La.) to build a Homestead (R.I.).

"So we raised our Wall (Pa.) and placed the traditional Treetop (N.C.) on the Ridge (Md.). We used Bricks (N.C.), Tile (Ohio), Stone (Ky.), Marble (Ark.) and Block (Tenn.) with Frame (W. Va.) and Shingle (Calif.). We had a plentiful supply of Whitewood (Ky.), Yellow Pine (Idaho), White Pine (Tenn.), Redwood (N.Y.), Cedar (Kans.), Oak (Ill.) and Locust (N.J.).

"With the cooperation of Mason (Va.), Plummer (Iowa), Tyler (Okla.), Turner (Ark.), Slater (Colo.), Painter (Wyo.), and a Man (W. Va.) and Boyes (Mont.), we found we could Dovetail (Mont.) everything and soon complete our Model (Tenn.) Manor (Calif.) in Triumph (Ill.).

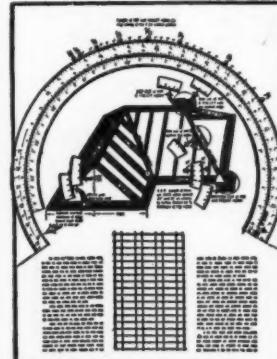
"And Goodluck (Ky.) attended us!"

### Canadian Builders Study Problem of Rising Costs in New Home Construction

QUESTIONS in connection with steadily rising building costs were discussed in detail at a recent meeting between home building contractors and building trades unions in British Columbia. Major A. E. Hudson, president of the British Columbia Contractor's Association expressed fear that rising costs, including labor, would keep buyers of low and medium income from obtaining houses. The unions were asking increases ranging from 15 to 55 cents an hour.

It was pointed out that the declared policy of the Central Mortgage and Housing Corporation and of approved loan institutions in Canada is that monthly payments on a home shall not exceed 23 per cent of a man's income. A man with an income of \$150 a month could not accept a house which cost more than \$6,000. "The Contractor's Association is endeavoring to keep both direct and indirect labor costs from going any higher," explained President Hudson. "It is to the interests of the builders, the labor unions, the sub-trades and the general public to prevent a situation in which medium-priced house building will cease," he added.

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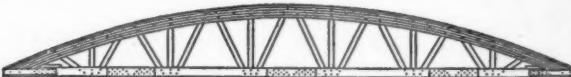


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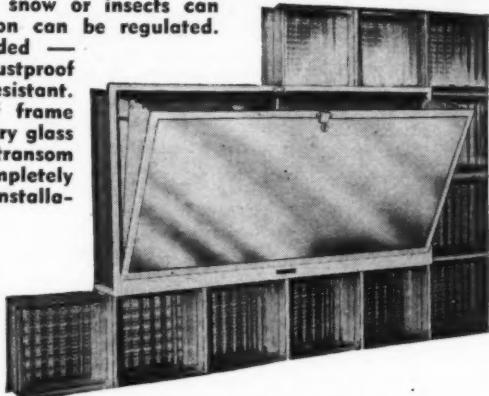
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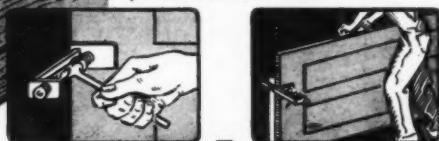
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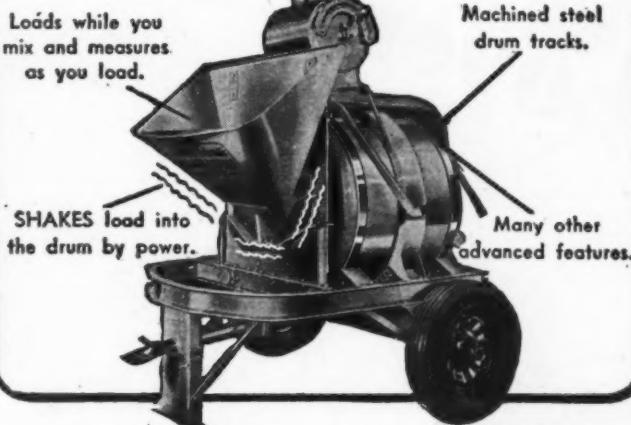
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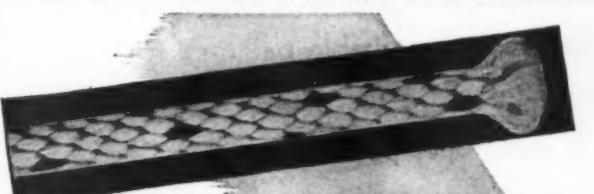
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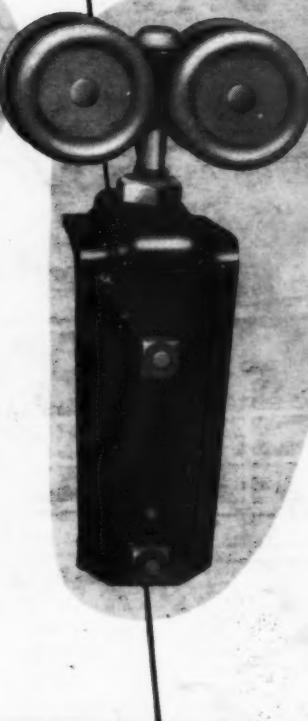
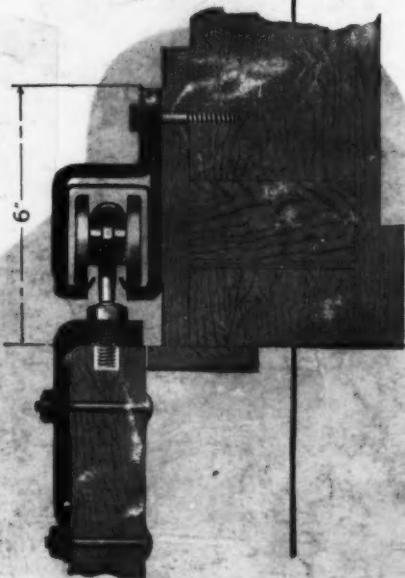
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NOS. 815 AND 816 THREE-DOOR TROLLEY GARAGE SETS



NOS. 812 AND 813 TROLLEY GARAGE DOOR SETS



#### NATIONAL TROLLEY GARAGE DOOR SET

help keep costs lower by eliminating the necessity of hanging a separate service door. The two types, illustrated on this page, make excellent installations and give long, satisfactory service.

**Nos. 812 and 813 Trolley Garage Door Sets** are installed with one hinged door which swings against the wall and two trolley doors which roll around the corner. All hardware is hung on the inside of the building. Equipped with adjustable double trolley or single trolley wheels as desired.

Furnished regularly for an eight-foot opening with eight feet of No. 51 Trolley Rail for use over the door, six feet for along side wall and a 27-inch radius curve for turning the corner. Special width of opening if wider than eight feet as additional trolley rail is required.

**Nos. 815 and 816 Three-Door Trolley Garage Sets** are installed with a single hinged door on one side and double trolley doors which fold against the opposite side. In these sets the No. 51 Trolley Rail and the No. 853 Garage Hanger are used. Hanger has both lateral and vertical adjustments and is equipped with roller bearings. Can be used either on the inside or outside of garage.

Furnished regularly for an eight-foot opening. The No. 815 is used same as the No. 816 except No. 29 Latch is used.

See your National Dealer  
for further information

**NATIONAL MANUFACTURING CO., Sterling, Ill.**